MONASTERY and GUILD

COMMERCE UNDER THE SĀTAVĀHANAS

HIMANSHU P. RAY

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IT

The early centuries of the Christian era saw a remarkable expansion of trade networks and urban settlements in the Indian subcontinent. This phenomenal growth resulted not merely from increased internal demand; it was also influenced by the proliferating needs of the Mediterranean markets under a unified Roman Empire.

This work focuses on the western Deccan, the core region under the Sātavāhana dynasty, and analyses the reasons for the expansion.

An intriguing phenomenon is the location of Buddhist caves along trade routes and at the heads of important passes. What was the link between these Buddhist monasteries and the merchants who travelled on the trade routes? Were guilds instrumental in the organization of trade? Who were the traders between the Mediterranean and the west coast; and how did the exchange mechanism function? The author discusses the expansion of agricultural settlements in the western Deccan and the link between landed wealth and commercial capital. Finally, the important issue of the structure of the society, and the impact that increased prosperity had on Sātavāhana social organization, is considered in some detail.

This study of the rise of a powerful dynasty in the western Deccan is based on archaeological, inscriptional and literary sources. It makes an important contribution to our understanding of the nature of society and the state in the early Christian era.

Dr Himanshu Prabha Ray is at the Centre for Historical Studies, Jawaharlal Nehru University, and has been awarded a Homi Bhabha Fellowship.

Jacket illustration: Sātavāhana coin showing a double-masted ship.
Courtesy: Deccan College, Pune.

£15-00

Rs 150

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Alexandreia
Rhinokoloura
Arsinoe
Petra
Koptos
Muos Hormos
THEBAID
Bernike
Leuke Kome
Red Sea
TROGLODYTE
BARBARIA
Suakin
Ptolemais Theron
Meroe
Khartum
Nile
Adouli
Alalaiou
Koloe
Metropolis called the Axumite
KUENEION
White
Blue Nile
Mouza
Saphar
Saue
Kane
Assab
Okelis
Diodoros Is
Aualites
Eudaimon Arabia
Bird Is.
Troullas
Mukalla
Sakhalites Bay
Suagros
Moskha
Zenobios Is.
Euphrates
Apologou
Pasinou Kharax
Persian Gulf
Bandar Abbas
Semiramis He
Asabon
Kalaiou
Muskat
OMANA
Sarapis
Mosullon
Dioskouridou Is.
Aromaton Emporion
Mait
Heis
Opone
OTHER BARBARIA
Wabi Shabelle
Bluffs of Azania
Strands of Azania
AZANIA
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Sarapion's
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Kismayu
Burikao
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N.E. Monsoon
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Proklais
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Taxila
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20
Nasik
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Tagara
Godavari
Semulla
Mandagora
Palaipatmai
Melizeigara
Krishna
Erannoboas
Buzantion
Sesekreienai Is.
DAKHINABADES
Kaineitai Is.
Karwar
Masalia
Penniar
Madras
Kaveri
Sopatma
Pondicherry
Naoura
Podouke
Tundis
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10
Madura
Mouziris
PANDION
Nelkunda & Bakare
DAMIRIKE
Palaisimoundou
Red Mountain
Kolkhoi
Balita
Komarei
CEAN

The Erythraean sea

0

70 80 90

MONASTERY AND GUILD

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Commerce under the Sātavāhanas

HIMANSHU PRABHA RAY

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To my mother

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ABBREVIATIONS

AR-ASI	*Annual Report of the Archaeological Survey of India*
ASSI	*Archaeological Survey of Southern India*
ASWI	*Archaeological Survey of Western India*
BDCRI	*Bulletin of the Deccan College Research Institute*
EI	*Epigraphia Indica*
IAR	*Indian Archaeology—a Review*
JNSI	*Journal of the Numismatic Society of India*
JRAS	*Journal of the Royal Asiatic Society*

INTRODUCTION

The focus of archaeological research has shifted from a study of cultures primarily in material terms (such as subsistence, technology, economy) or in ideological terms (such as religion, social relations) to a study of cultures as integrated systems. Trade offers one such approach to human activities in terms of both economic and social relations.

Trade has been defined as 'the mutually appropriative movement of goods between hands' (Polanyi, 1957 : 266). This movement may be within contiguous social units (internal trade) or between groups across cultural boundaries (external trade). It has been further categorized into gift trade, administered trade and market trade (ibid. : 243–70). The first is based on a reciprocal relationship between parties, while the second type can take place only in the case of a formal treaty and necessitates the existence of a port of trade which offers varied facilities like those of anchorage and storage, civil and legal protection and agreement on the mode of payment. The third type—market trade—follows the lines traced out by the supply–demand–price mechanism. Each of these types of trade can be broken down further into a number of constituents such as personnel. goods and transportation. A study of these constituents is necessary to analyse the nature of trade. The procurement of goods for trade crosses geographical and political barriers and it is difficult to draw boundary lines; hence by restricting ourselves to the western Deccan in this study we are concentrating on a core area which this region undoubtedly was under the early Sātavāhanas, though the lower Krishna valley in the eastern Deccan acquired considerable prominence under the later rulers of the dynasty. As we shall see in Chapter 1 the reasons for the importance of the western Deccan lay both in its geographical location as well as in historical factors. The latter can be identified only by a detailed study of early settlements in the region and by analysing changes in routes and shifts in areas

of habitation. Once spatial limits have been established it is necessary to study the political environment. Sātavāhana chronology has been the subject of considerable debate. In Chapter 2 we shall analyse the data from different sources such as the *Purāṇas*, inscriptions, coins and excavation reports.

In the historical period, archaeological and literary sources dated to the mid-first millennium B.C. provide considerable data on travel and trade in the subcontinent, both internal and external (Map 1, front endpapers). It would be difficult to explain the location of Mauryan inscriptions in peninsular India in regions rich in iron and gold reserves without ascribing it to commercial exploitation. Kauṭalya in his *Arthaśāstra* (VII.12.24) refers to the enormous mineral resources along the *dakṣiṇāpatha*—the southern route—and extols the advantages of land routes over sea routes. In the western Deccan there is a radical transformation in the post-Mauryan period, the first century B.C. coinciding with the rise of the Sātavāhanas. The scatter of Mauryan and post-Mauryan settlements gives rise to urban centres and there is a simultaneous proliferation of Buddhist monastic establishments. Together with internal trade, the external trade which had so far been marginal also increased.

Buddhist literature is replete with references to ocean-going vessels capable of accommodating a large number of passengers (Ramachandran, 1970 : 71–81; Basham, 1949 : 60–71). Material evidence for these contacts comes in the form of Indian timber discovered in the ruins of Birs Nimrud and Ur in west Asia in structures dating to *c.* 604–538 B.C. (Hornell, 1918–23 : 208). The sea route from the mouth of the river Indus to Egypt was explored by a certain mariner Scylax under a commission from Darius (Raschke, 1978 : 656). Strabo in his *Geography* relates the story of Eudoxus, who, guided by a shipwrecked Indian, led two officially sponsored expeditions from the Ptolemaic court in 118–116 B.C. to India (II.iii.4). First century B.C. inscriptions in Egypt refer to a Ptolemaic administrator in charge of the Indian Ocean area and the Red Sea (Adhya, 1966 : 120) and the *Periplus* (sec. 30) mentions colonies of Greek and Indian merchants on Socotra, an island off the Arabian coast which existed during the Ptolemaic period. These statements when compared with the latest evidence from

sites such as Arikamedu on the east coast of India would suggest the existence of Indo-Mediterranean trade during the second and first centuries B.C. (Begley, 1983 : 461). An economic explanation for the relatively low volume of late Ptolemaic commerce with India thus seems far more likely than any failure to utilize the monsoons (Raschke, 1978 : 662). Given the antiquity of the sea-traffic between the subcontinent and the Arabian coast 'there is no cogent reason to doubt that the Arabs and Indians who moved in this region from fairly ancient times became conversant with the wind system of the Arabian Sea long before the sailors of the Mediterranean countries started visiting this region' (Adhya, 1966 : 121). Similarly Hourani's view (1960 : 135–6) that Arab vessels were forced to travel along the coast as they could not use the south-west monsoon on account of their flimsy construction has been convincingly questioned by Van Beek (1960 : 136–9) on the basis of research carried out by Bowen (1952). The upsurge in commerce in the decade after Actium was not so much due to the discovery of the monsoon, but rather, as with many other discoveries and technological developments, the full utilization of the new technique came only when general economic conditions were favourable for such exploitation (Raschke, 1978 : 662). The best possible explanation then for the 'discovery' attributed to Hippalus would be to suggest that the Greeks crystallized what had hitherto been hearsay.

Interest in the study of Roman contacts with India goes back to the early years of the nineteenth century, to the publication of largely descriptive accounts based on ancient texts. These include the works of Vincent and later of Kennedy, McCrindle, Priaulx, Reinaud and Schoff, which were followed by Rawlinson's monograph in 1916 and Warmington's in 1928. Charlesworth provided a fresh survey of the entire evidence in 1951, while three years later Wheeler published his analysis entitled *Rome Beyond the Imperial Frontiers*. These studies restricted themselves to a descriptive evaluation of the evidence available in ancient Roman writings. In contrast, Moti Chandra's study of ancient Indian trade routes (1953, 1957) takes into account Indian sources as well, though the work limits its scope to an enumeration of routes and the goods which were transported along them. The works of Miller (1969) and Raschke (1978) are

in a different category as they are analytical and comprehensive and cover the whole of south-east Asia.

Nationalist writings of the early twentieth century produced considerable literature on the antiquity of various institutions in India, including studies on varied subjects such as guilds, shipping, money-lending, banking, agriculture, irrigation, land systems and town planning (Sharma, 1974 : 48–80). While these provided useful information their main aim was to extol the achievements of the ancient period and they remained isolated and somewhat glorified histories of various institutions.

The study of economic history is a comparatively recent development in Indian historiography and dates from the 1950s. Some of the noteworthy works are those of Kosambi (1956), Adhya (1966), Chakraborty (1966) and Shrivastava (1968). Kosambi was the first to emphasize the location of the western Deccan caves along trade routes and to study the involvement of Buddhist monks in the economic development of the region. These were pioneering works but they gave incomplete answers to questions regarding the connection between trade and urbanization.

The definition of the word 'urban' is controversial. It is generally agreed that a city is a 'unit of settlement which performs specialized functions in relation to a broader hinterland' (Trigger, 1972 : 575–99). The growth of cities in pre-industrial societies has been attributed to several causal factors including administration, defence, religion, trade and education. Several studies have indicated the high correlation between long-distance trade and the development of cities. The ancient cities of Arabia were located along flourishing trade routes. This made the re-investment of profits in elaborate systems for flash flood irrigation possible, thereby ensuring a steady supply of food for the inhabitants. The decline in trade led to the degeneration of these irrigation systems and the cities they supported were abandoned (ibid.).

Long-distance trade influenced the growth of urban centres in another way. Expensive and specialized items of consumption could only be produced economically and efficiently at a few centres. A master craftsman would be able to produce a few selected items for export or elite consumption by delegating to apprentices the less specialized chores and by himself concen-

trating on a narrow range of the work. This would not only result in a higher degree of excellence but in the reduction of costs as well since the work could be distributed among less skilled craftsmen. The co-ordination of production would, however, require an effective hierarchical organization ranging from an itinerant group of craftsmen to a guild capable of regulating production and empowered to set standards and prices.

The correlation of trade with the growth of urban centres needs to be investigated for the period under study as there is increasing evidence, as outlined in Chapter 3, for the development of cities in the western Deccan around this time.

There is a close connection between landed wealth and commercial capital and it is with a view to explaining this relationship that Chapter 4 takes up for study the expansion of agricultural settlements in the western Deccan. Land grants to Buddhists and brahmans (*brāhmaṇa*) are known from this period and the donors were not always of royal descent. Monasteries gradually increased their wealth and inscriptions record donations of money by monks and nuns. There was an increase in handicraft production and craftsmen were organized into guilds. These economic manifestations of trade, including items of import and export, means of transportation and the mode of payment call for a discussion in Chapter 4. Social attitudes and institutions are, however, the most important factors in determining the type, quality and quantity of commercial activity in a given society. For an evaluation of the nature of the society in the last chapter, we would have to digress and trace its beginnings in the earlier Megalithic period.

Valuable information for our period comes from foreign literature. Several of these writings and notices about India have survived, though not in their entirety. Two early works are the *History* of Polybius written in the second century B.C. and the *Geography* of Artemidorus of Ephesus, who lived in *c.* 100 B.C. Many portions of the former are now lost (Majumdar, 1960 : 449), though a few extracts from the latter are preserved in the later work of Marcianus of Herakleia (McCrindle, 1971, reprint : xvii).

Contemporary works of some significance are those of Pliny, Ptolemy, Strabo, Porphyry and Stobaeus, as well as the *Periplus*

of the Erythraean Sea.[1] Of these, only the *Periplus* has a bearing on Sātavāhana chronology as it refers to contemporary rulers. Unfortunately a majority of the manuscripts of the work do not provide any evidence regarding the date or the author of the text. The Heidelberg manuscript of the early ninth century attributes the *Periplus* to Arrian and the same author is also mentioned in a fourteenth-century British Museum manuscript. This may be because the author of the preceding treatise in the manuscripts, the *Euxine Periplus*, was Arrian (Miller, 1969 : 18). The confusion has led to a range of assumptions regarding both the author and the date. Father Gervase Mathew (1975 : 147–63) concluded on the basis of the language that the author must have been a Roman trade official, which has been discounted by Schoff (1974 : 7) and others (Huntingford, 1980 : 7) who argue that there is far too much information of purely maritime interest for it to have been the work of a mere trade official. They suggest that it was the work of a Greek living in Egypt, probably sailing out of the Egyptian Red Sea harbour of Berenike, because whenever distances or directions are mentioned, Berenike is always the reference point. A similar disharmony of views exists regarding the date of the work. McCrindle (1879 : 108) places it between A.D. 80 and 89, Kennedy (1918 : 12) assigns it to A.D. 70, while Majumdar (1962 : 95) dates it to the third century A.D.

Jacqueline Pirenne, following Reinaud, is of the opinion that the *Periplus of the Erythraean Sea* belongs to a period after A.D. 106 and that the ruler Malichus, king of the Nabateans, mentioned therein should be taken as Malichus III. Since the *Natural History* of Pliny written in A.D. 77 makes no mention of the *Periplus*, the latter should be placed after Pliny. Besides, the Arabian state of Qataban is not mentioned in the *Periplus* and this state ceased to exist by *c.* A.D. 250. This last argument is merely an indicator of the anomalies in the text and not much weight need be attached to it (Kirwan, 1981 : 80–5). Other objections have been suitably countered by Dehejia (1972 : 24) who has argued forcefully that the ruler Malichus of the text refers to Malichus II who ruled between A.D. 40 and 71. She

[1] The Erythraean Sea was an appellation given to the whole expanse of the ocean stretching from the coast of Africa to the utmost boundary of ancient knowledge on the east (McCrindle, 1879 : 107).

holds that the superior practical knowledge of navigation displayed by the *Periplus* in relation to Pliny, and the latter's ignorance regarding the former work, in no way affects the contemporaneity of the two. The discrepancy arises solely out of the specific nature of their purpose. Pliny was a nobleman on intimate terms with the Emperor Vespasian and a Prefect of the Roman fleet. His work is scholarly and carefully researched from earlier manuscripts and as such he was in no way obliged either to consult or to acknowledge the text written by an obscure sailor. The *Periplus* should hence be dated between A.D. 40 and 71.

Both the *Periplus* and the *Natural History* of Pliny contain useful references to the commerce between India and the west. The former provides an elaborate account of the advantages and disadvantages of the ports along the coasts of the subcontinent; the mechanism of exchange between traders from India and the west; and the provenance of goods transported to the ports for export. Pliny is more useful for information on the uses of the commodities imported into Rome and their comparative prices in the market (Bk. XII, ix–liv). The colossal *Geography* of Strabo written about A.D. 19 contains exhaustive and accurate information primarily about Egypt and is of much less value for the Indian subcontinent. Strabo has based his account of India on earlier writers like Megasthenes and Nearchus and deals with diverse subjects like customs, division of castes and Alexander's campaign (15.1.24–15.2.14).

Compared to these, the *Guide to Geography* by Claudius Ptolemy, written in the middle of the second century A.D., has very little narrative. It contains a series of tables of names and places followed by figures giving latitudes and longitudes. These are of little use to us as they are based on a distorted map of India which makes the west coast turn round a little below Bombay and run eastward, practically eliminating the peninsula (McCrindle 1971, reprint : xviii).

The Greek historian and philosopher Arrian lived in the second century A.D. and was the author of several works including the *Anabasis of Alexander* and the *Indika* (Majumdar, 1960 : 5). Hardly anything is known of the personal history of Curtius Rufus Quintus, though his work the *History of Alexander the Great* has survived in fragments (ibid. : 103). Another ac-

count of Alexander's campaign is to be found in the *Bibliotheca Historica* of Diodorus Siculus who lived in the first century B.C. (ibid. : 162). Pompeius Trogus' volumes on Macedonian history of about the same date survive in the work of Justin (ibid. : 182). Philostratus in his biography of Apollonius Tyanensis has given an account of the philosopher's visit to India in the first century A.D., while Claudius Aelianus wrote *On the Peculiarities of Animals* in which he deals with a large number of birds and animals of India (ibid. : 413). Only a few fragments of the works of Dion Chrysostom and Dion Cassius are now preserved (ibid. : 451).

Dioscorides, a soldier physician who wrote his *Materia Medica* around A.D. 65, provides considerable information on spices used in pharmacology. Porphyry and Stobaeus have preserved from Bardesanes, who lived in the latter half of the second century A.D., interesting particulars regarding brahman and Buddhist ascetics. Other works include the *Compendium of Geography* by Pomponius Mela, another *Compendium* by Solinus and the *Periplus of the Outer Sea* by Marcianus of Herakleia. Mela wrote in *c.* A.D. 42, but his knowledge of India was vague. Solinus (A.D. 238) derived nearly all his material from Pliny. Marcianus writing in A.D. 400 followed Ptolemy and in his work gives no new information about India (McCrindle, 1971, reprint : xix).

These accounts show that the first embassy from the subcontinent reached Rome only during the time of the Emperor Augustus (29 B.C.–A.D. 14). Strabo (15.1.4) writes that Nikalaos Damaskeous, a friend of the emperor, met the Indian ambassadors at Antioch. They had been sent by Poros and the gifts included a sophist from Barygaza (modern Bharuch) who, with fanatical fervour, burnt himself at Athens. Poros promised to grant passage through his dominions to Augustus and to assist him in any good enterprise. There seems to be a difference of opinion among scholars regarding the number of embassies sent from India to Augustus. Warmington (1974 : 36–7) is of the view that four embassies were sent, from north-west India, Bharuch, the Cera kingdom, and the Pandya ruler. Saletore (1958 : 230) accepts the authenticity of one embassy only, sent in 21–20 B.C. by the Indo-Parthian king, Azes II.

In the first century A.D. the Emperor Claudius received an embassy from a Pandya king and in A.D. 107 another was sent

to Trajan, possibly from Kadphises II. It has been suggested that the embassy received by Hadrian was probably sent by Kaniṣka (ibid. : 249). The account attributed to Bardesanes indicates that an embassy headed by Dandamis or Sandanes was received by Marcus Aurelius in A.D. 219. Identification of the Indian ruler who sent the embassy is still a controversial issue, and various names, such as those of the Kṣatrapas and the Sātavāhanas, have been proposed. Thus there is evidence of contact between Indian rulers and the Roman emperors from the time of Augustus, even without precise identification of the kings.

The *Purāṇas* head the list of literary works considered useful in working out the chronology of the Sātavāhanas. Apart from these, there is a mass of literature of little 'historical' value, but used with caution, of great significance in studying the social and economic conditions of the period. We shall not consider either the *Rāmāyaṇa* or the *Mahābhārata* here as they cover a time span of several centuries. They are not representative of any one period but are the works of several successive generations.

Of the *Smṛtis* or *Dharmaśāstras* which were produced at this time, the most important is the *Manusmṛti*. According to Max Mueller's view, now accepted, it is a recast of the Dharmasūtra of the Maitrāyaṇiya school which adheres to the *Kṛṣṇa Yajurveda*. It was formulated between 200 B.C. and A.D. 200 and the text was revised several times later. The other *Smṛtis* placed between A.D. 100 and 300 are the *Viṣṇu Smṛti*, *Yajnavalkya Smṛti* and the *Nārada Smṛti* (Kane, 1941, II : 1, 11). Other scholars disagree with this and place the last three much later (Mehendale, 1968 : 257). In view of the controversy, we are justified in using only the *Manusmṛti*.

The *Nātyaśāstra* of Bharata is the earliest extant work on dramaturgy and has been assigned various dates between the second century B.C. and the third century A.D. (ibid. : 269). The traditional view places Kauṭalya, the author of the *Arthaśāstra* in the fourth century B.C. Scholars are, however, not unanimous in this regard. Kangle (1963 : 106) regards the *Arthaśāstra* as the work of the Kauṭalya who helped Chandragupta to ascend the Mauryan throne, while Trautmann (1971 : 174) has shown that the *Arthaśāstra* has not one author but several, Books II, III, VII belonging to different periods, some preceding the age

of compilation of the text. On the whole, evidence on the date converges on the middle of the second century A.D. Another important work of the period is the *Kāmasūtra* of Vātsyāyana, which elaborates on the attainments of a city-bred man. Here too only Books I,III, IV and V are attributed to Vātsyāyana, Books II, VI and VII being marked by a different style (Trautman, 1971 : 171). Bhandarkar (1920 : 23) would like to place Vātsyāyana in the first century A.D. while Jolly (1923) assigns him to the fourth century.

Apart from the religious and specialized literature, several poetic and dramatic works also date from the early centuries of the Christian era. Asvaghoṣa, writing in the second century A.D., is credited with the authorship of three plays and two *kāvyas* (Winternitz, 1977, reprint, III : 45). Bhāsa is accepted as the author of thirteen plays. His date is closely linked to that of Kālidāsa as the latter makes a reverential reference to him. Traditionally Kālidāsa is said to have lived in the first century B.C., though other scholars place him in the fourth century A.D. Bhāsa probably lived a century earlier than him (ibid. : 229).

In addition, we have the Buddhist literature in Sanskrit from this period. Pre-eminent is the *Jātakamālā* of Arya Sūra written, probably, in the second or third century A.D. (ibid. : 45). Important works of contemporary literature are the *Avadānaśataka* and the *Divyāvadāna*. The *Gāthāsattasai*, consisting of 700 *gāthās* or verses, is regarded as the oldest anthology in Maharashtri Prakrit. Traditionally it is ascribed to the Sātavāhana king Hāla. A comparison of the seven rescensions of the work available shows that only 430 *gāthās* are common to all and as many as 384 poets are mentioned as contributors. It is believed that regular additions were made to the *Sattasai* almost up to the eighth century A.D. (Mirashi, 1960a : 76–9).

Together with Sanskrit and Prakrit literature, several works were produced in Pali and Tamil. Pali literature may be divided into two categories, canonical and non-canonical. The former was largely produced between the fifth and the first centuries B.C., while the latter belongs to the early centuries of the Christian era. Canonical literature comprises the *Vinaya Piṭaka, Sutta Piṭaka* and the *Abhidhamma Piṭaka*. Of these the *Sutta Piṭaka* together with its five *Nikāyas* is important for our study. Among the different texts included in the *Khuddaka Nikāya* are the

Jātakas which are more than five hundred in number. An analysis of Aśokan inscriptions and the sculptures at Bharhut and Sanchi shows that at some time prior to the second century B.C., probably as early as the time of Aśoka, there was a Buddhist canon which, if not entirely identical with the present Pali canon, resembled it very closely (Winternitz, 1972, reprint, II : 18). That some of the *Jātakas* belonged to the Buddhist tradition in the second or third century B.C. is proved by the reliefs on the stone walls around the stupas (*stūpas*) of Bharhut and Sanchi. Much of the prose, however, belongs to the Christian era.

Of non-canonical literature mention may be made of the *Milindapañha* which was written about the beginning of the Christian era. The original text is now lost and the present work is a Pali translation of the original made at a very early date in Sri Lanka (ibid. : 409). Contemporaneous with the *Milindapañha* are two other texts, the *Nettipakaraṇa*, a treatise on textual and exegetical methodology, and the *Petakopadesa*.

It would be best to exclude Sangam literature in Tamil from our study, on account of its vast time span. According to the Svetāmbara Jainas, the authority of their texts do not go beyond the fifth century A.D., even though their oral tradition may be traced back to the times of Mahāvīra. Even more problematic is the literature of the Digambaras, about which little is known (ibid. : 473–5).

We are aware of the inherent drawbacks in the data. No detailed records relating to the economy are available for the period under study and references to economic organization in literary texts are only incidental. Fortunately inscriptions do not suffer from this disadvantage, and even though they are limited to records of gifts and donations, they provide useful information regarding the donees. Finds from archaeological excavations could have been an invaluable source, but the Early Historical period has been largely neglected. Summary digs at Nasik, Nevasa, Prakash, Maheshwar, Paithan, Bhokardan and Ter provide the only available data.

In spite of these difficulties in quantification, an inquiry of this nature may help in an understanding of the complexities of commercial and social interaction and may provide parameters for future archaeological investigation.

1
GEOGRAPHY AND EARLY SETTLEMENTS

Land forms have considerable bearing on the historical development of a region through their influence on the climate and hence on the means of subsistence. Equally important is their role in defining nuclear areas of human settlement in terms of accessibility and fertility, or conversely, areas of isolation. This relationship is useful in studying the changing needs of communities and the corresponding expansion and shifts in settlements.

The Indian subcontinent has been broadly divided into three basic regions: the Deccan peninsula, the Indo-Gangetic plain, and the Himalayan range. The scope of this study is limited to the Deccan peninsula extending south from the Aravalli hills, which is geologically one of the oldest regions of the earth. Subsequent physiographic changes have however resulted in the formation of smaller zones within it with generally uniform physical characteristics, the principal ones among these being the lava region of the western Deccan and the granite areas farther south and east.

The western portion of the peninsula was marked by the spread of lavas at the beginning of the Tertiary era. These lava flows occurred in horizontal beds of varying thickness reaching a maximum of 3000 metres near Bombay. The weathering peculiarities of these basaltic formations and their almost horizontal position resulted in the development of the characteristic 'trap' topography. The Deccan lava extend from the southern flank of the Narmada valley to the banks of the Krishna in the south. In the east their boundary is roughly coterminous with the longitude 76°E while the Arabian Sea forms a natural extremity to the west. This basaltic base is covered by a fertile black soil except in the river valleys, on the terraces and the old flood plains where alluvial deposits occur (Singh, 1971 : 699).

As the Vindhyan hills to the north of the river Narmada form a natural barrier it was found necessary for the purpose of this study to include the Narmada valley within the framework of the western Deccan. Geologically and climate wise the western Deccan forms a unified region within the peninsula and its eastern boundary coincides with the 'climatic transition which shifts the emphasis in agriculture from the kharif[1] cropping season to that of the rabi' (Deshpande, 1948 : 7).

Though of uniform geological formation, the western Deccan, which forms a plateau sloping gradually to the east, can be divided into several relief regions. The high Sahyadri range (or the Western Ghats) runs almost longitudinally along the western edge of the plateau and separates it from the narrow coastal strip of the Konkan in the west. Lateral offshoots of the Sahyadris traverse the plateau eastwards, prominent among which are the Ajanta hills, the Balaghat range and the Mahadeo range. These form barriers between the Tapti, Godavari, Bhima and Krishna river valleys respectively. In the north the Satpura range separates the river basins of the Narmada and the Tapti. While the last two rivers mentioned flow westward into the Arabian Sea, the Godavari and the Bhima–Krishna systems flow eastward into the Bay of Bengal (Map 2).

The west coast comprises the estuaries of the Narmada and the Tapti and the coastal strip of the Konkan. The coastal plain is a rugged belt about fifty kilometres in width in the north tapering off towards the south to about thirty kilometres. The Thana creek divides the plain into northern and southern Konkan.

The rugged nature of the Konkan is due to the outliers of the Sahyadris which in many places extend to the sea as headlands. The plains are further broken by a number of short, fast-flowing rivers such as the Vaitarna, Ulhas, Amba, Savitri and Vashishti. These rise in the Sahyadris and flowing through narrow, deep ravines enter the Arabian Sea after tortuous courses seldom over sixty kilometres. Sharp bends in these

[1] The kharif cropping season is suited to crops like rice, jowar, bajra, sesamum, cotton and jute which are sown after the onset of the monsoons in June–July and are harvested in autumn. Rabi crops like wheat, barley, gram, linseed, rapeseed and mustard are sown after the rains and harvested in spring (Spate and Learmonth, 1967 : 229).

Physical features of the western Deccan

rivers make them unfit for navigation beyond thirty kilometres or so of their mouths. They are also ill-suited for irrigation since they carry adequate quantities of water only during the rainy season; during the rest of the year they have a limited flow or even go dry. Deposition of eroded material in their lower reaches, especially in estuarine tracts, is a common feature of these rivers. Apart from providing fertile tracts, the estuaries afford safe anchorage for coastal craft. The sea coast is also characterized by tidal inlets and creeks, some of which run inland forty to fifty kilometres.

One of the most important factors to be considered in the study of the physical geography of the west coast is the change in sea-level and sedimentation which has considerably reduced the intrinsic value of the port sites. Historically speaking almost every safe creek and estuary had a port but its importance depended on the hinterland. This prominence has however been far from uniform and the west coast ports have had fluctuating fortunes as a result of the opening up of new routes and silting up of inlets. As late as the seventeenth century the Bassein creek was navigable as far as Kalyan and Bhiwandi and the silted channel on which Sopara stands today was navigable over a long distance. Similarly the Thana creek was navigable throughout its course and the present marshes and salt pans were much smaller. In the jaw of the Thana bight stood the **islands of Hog, Gharapuri (Elephanta) and Karanja or Uran** (Apte, 1973 : 8–10).

Similarly, when the Portuguese took possession of Bombay, it was a sandy and uncultivated island circumscribed within very narrow limits, traversed by innumerable creeks and partly submerged by the sea at high tide (da Cunha, 1874 : 293). Surat on the mouth of the Tapti was an important port during the medieval period but finds no mention under the Sātavāhanas. The predominance of Bharuch was possibly due to its accessibility both from the north and the south. It was the only outlet on the west coast for the landlocked Gangetic plain with a passage from the peninsula through the Narmada valley. Surat, on the other hand, was shut off from the plateau by the Rajpipla hills and the forests of Dangs and Khandesh.

Like the rest of the Deccan plateau the Konkan is covered with black soil (often referred to as regur) except in two parts.

The north Konkan has an alluvial strip of land separated from the interior by the hill range of Kaldurg running approximately north to south whereas laterite extends over a major area of the south Konkan. Since laterite is not moisture-retentive it can only support scrub growth and is of little value for crop production. This accounts for the agricultural deficiency of the south Konkan and for the concentration of settlements along the alluvial river valleys.

Rainfall along the Konkan coast comes from the south-west monsoon during the months of June to October and it is dry during the winter months, although farther east some precipitation is brought about by the retreating north-east winds. Rainfall averages between 190 to 250 centimetres in the south Konkan but decreases to betweeen 100 and 175 centimetres in the northern part (ibid. : 159). As a result the sea front is fringed by a belt of coconut and areca nut palms. Behind this strip the flat land is suited to rice cultivation. The foot-hills of the Sahyadris are covered with monsoon and littoral forests, and trees belonging to the mangrove family abound along the creeks and on the coast.

According to Tamil literature gold used to be extracted near Phondaghat at the foot of the Sahyadris (*Imperial Gazetteer of India*, II, 1909 : 153). Iron occurs in the lateritic zone of the Konkan, especially in the neighbourhood of the port of Malvan. The coast has been known for pearls; and oil is extracted from sesamum, coconut and groundnut.

The Konkan coast seems to be isolated on account of the Sahyadri range, but its position in history has been far from insular. The passes along the Sahyadris have been profitably used to maintain communications between the coast and the plateau. Until the beginning of this century grain, cotton and sugar were brought down from beyond the Western Ghats to the coast by pack animals and as headloads to be exchanged for coastal produce like coconuts, salt and dried fish.

Dolerite dykes, chert, crypto-crystalline silica and quartzite occur in plenty in the north Konkan. In spite of this availability of raw materials suitable for the manufacture of tools, archaeological evidence in the Konkan is restricted to relatively isolated surface sites yielding a limited number of artefacts. One of the major factors in the economic backwardness of the Konkan

is the acute scarcity of water during the six months preceding the monsoon. Along the coast the rivulets are virtually dry for half the year, and as the water in the estuaries would be saline it could be concluded that the Malvan coastal Stone Age sites represent only seasonal occupation. On the other hand, at Bombay, human habitation could have been sustained throughout the year because of the perennial springs located in the hills above Kandivli (Guzder, 1975 : 218).

In respect of the protohistoric period also, archaeological efforts have drawn a blank and no Chalcolithic or Megalithic sites have so far been discovered along the Konkan. Farther north, on the west coast, however, Harappan and Late Harappan settlements extend from Gujarat up to the mouth of the Tapti. Stray finds from Bharuch include sherds of red ware and buff ware, said to be similar to the Chalcolithic cultures of western India (Mehta, 1981). Period II at Bharuch dated to the latter half of the first millennium B.C. provides the first archaeological record of Early Historical settlement along the coast (ibid.). Another site which has yielded similar evidence is Sopara where a few lines of the eighth and ninth Asokan edicts have been found (Chakraborti, 1966 : 101; Chakravarti, 1956–7 : 107–8).

Aparānta (north Konkan) and its towns find mention in several literary texts. The *Mahābhārata* refers to Aparānta (Droṇa parva. 9.40; Sabhā parva. 47.24) and speaks of the sanctity of Śūrpāraka (Sopara), the tirtha (*tīrtha*) (Āraṇyaka parva. 118.8). The inhabitants of Bṛgukaccha (Bharuch) are said to have paid tribute to Yudhiṣṭhira (Sabhā parva. 307). The *Rāmāyaṇa* is silent about settlements along the west coast, though it describes the Sahya mountain crossed by Rāma's army during its march to Lanka (VI.4.34).

The fifth rock edict of Aśoka mentions the inhabitants of Aparānta [ka]. In the *Mahāvaṃsa* (XII.5) and the *Dīpavaṃsa* (VIII.7) Aparānta is mentioned as one of the countries to which Aśoka sent missionaries after the Third Council and Vijaya who led the first settlement of Sri Lanka is said to have embarked from Sopara (*Mahāvaṃsa*. VI.46,47). Kauṭalya refers to the fine cotton garments of Aparānta (*Arthaśāstra* II.11.90). The Suppāraka jātaka narrates the story of the sailor Suppāraka who lived in Bharukaccha (XI, no. 463). People from Bharu-

kaccha and Aparānta are again mentioned in the *Milindapañha* (II : 172). It is also stated that in Aparānta a kind of grain called *kumudabhaṇḍikā* is reaped and harvested within a month and eaten by slaves and workers, while rice ripens in five or six months (ibid. : 121).

Both Bharuch and Sopara continued to flourish in the Sātavāhana period. Further south the *Periplus* mentions the market town of Kalliena (Kalyan) and at the same time indicates a conflict between the rulers of Barygaza (Bharuch) and Kalyan to capture external trade (sec. 52). We have mentioned earlier that in the Ulhas basin the Konkan coast widens into the Sahyadris to form an arc. Kalyan lies at the centre of this basin. Even more important than the agricultural potential of the region is its strategic control of the communication network. In this area the Sahyadris are broken by three natural passes—the Thal, Nana and Bhorghats. Kalyan lies in a favourable position to dominate these arterial routes between the coast and the plateau. South of Kalyan lay the port of Semylla or modern Chaul and within a convenient distance from it were located at least 130 Buddhist caves, the largest monastic establishment being at Kanheri (Fergusson and Burgess, 1880 : 348).

In view of the agricultural unsuitability of the lateritic soils of the south Konkan, it is not surprising that settlements are limited to fertile tracts along the mouths of the rivers. The *Periplus* mentions the ports of Mandagora (variously identified with Mahad or Bankot at the mouth of the river Savitri), Palaepatme (Pali near Mahad or Dabhol on the north bank of the river Vashishti), Malizigara (Rajapur, at the head of a tidal creek), Byzantium (Vijayadurg, one of the best harbours on the west coast), and Turannoboas (Malvan, situated in a bay). In south Konkan, as in the north, Buddhist caves lie in the vicinity of ports, as at Bankot. Two small groups of caves with inscriptions occur at Kol across the Savitri river (Burgess, 1885 : 74). Twenty-six caves have been found at Kuda forty-five to sixty metres above sea level and looking down on the Rajapur creek (Burgess and Indraji, 1976, reprint : 3). Forty-five kilometres to the south-east of Kuda are twenty-eight more caves at Mahad on the Savitri river (Fergusson and Burgess, 1880 : 209).

The Satpura Range divides the valleys of the Narmada and the Tapti and consists of two blocks separated by the wide

water gap of Burhanpur to the east which provides a passage for the Tapti. Their fractured southern edge makes them a formidable barrier from the Tapti side. The Satpuras contain a number of high plateaus. Significant among these is the long and narrow Toranmal plateau lying within the boundaries of the present Dhule (Dhulia) district. West of the Toranmal plateau are the Akhrani uplands with many rich valleys. The hills are believed to contain veins of silver, copper and tin.

The Sahyadri range or the Western Ghats run north to south along the western edge of the Deccan thirty to forty-five kilometres in width with average height of 900 to 1200 metres. Local faulting and erosion have given the range an appearance of a chain of plateau tops girdled by terraces and broken in many places by local weaknesses in the rock which have formed passes. Of these, the Thal, Nana and Bhor passes have already been referred to as major routes of communication between the Konkan coast and the plateau. Some other notable passes include the Kondaibari pass in the north connecting an ancient route between Bharuch and the Deccan, and the Vagji-, Kumbharli-, Amba- and Phondaghats in the south.

From the Sahyadris lateral hill ranges stretch eastwards across the plateau, gradually decreasing in height. These form barriers between the river valleys and are crossed by passes which determine the arterial routes. While some of these are as long as fifty kilometres, others terminate after a shorter stretch. Prominent among these are the Galna hills and the Ajanta, Kalsubai, Baleshwar, Harishchandra (known as Balaghat in the east), Purandhar and Mahadeo ranges.

The Deccan trap underlying the entire region, locally interspersed with intra-trappean beds, weathers into a rich black soil which is fertile and moisture-retentive. Its unusual contraction under dry conditions gives rise to its 'self-ploughing' quality. In the dry season cracks form and soil fragments from the surface fall down through these to a depth of one or two metres. This results in a periodic exchange of the topsoil and the subsoil. However when waterlogged it becomes difficult to traverse even on foot. At the same time, the depth of the soil is not uniform over the entire western Deccan. While low-lying valleys develop a mature and fertile soil, the higher zones having a steep gradient are characterized by immature and poor soil types. It

follows that agricultural production is limited to the valleys while indifferent dry farming and sheep grazing are typical of the plateau tops.

The black soil with its high lime content is ideal for growing cotton. Wheat, millets, jowar, oilseeds and gram are the other crops cultivated in the valleys, whereas in the uplands millets and pulses are the main crops. In certain cases it has been found that a field producing cotton and jowar for two or three generations has now become a pasture land because of continued soil erosion (Mukherjee, 1969 : 251).

As in the Konkan, the main rainy season in the rest of the western Deccan lasts from June to October, with heavy rainfall at the onset of the south-west monsoon in June and again in September. The Sahyadris lie in the heavy rainfall zone and receive an annual rainfall approximately over 380 centimetres though there is a gradual decrease from south to north. On the plateau, precipitation varies between sixty-five and 100 centimetres and in the central part lies a narrow belt which gets only about fifty centimetres annually. Beyond the plateau the region to the east gets rainfall from the north-east monsoon also and this is very important for the rabi crop.

The flat-topped Sahyadris on their higher slopes support a poorer type of forest and occasionally scrub, while their lower slopes are covered by jungles of teak and bamboo. In the plateau tracts east of the Sahyadris a dry mixed deciduous forest predominates with a large proportion of grassland, especially on the hill tops. Still farther east scanty rainfall supports only thorn forests.

The Deccan trap forms the chief source of semi-precious stones, prominent among which are agate, carnelian and other forms of chalcedony. In some parts of the Deccan the surface is strewn with chalcedony nodules left after the weathering away of the enclosing rock, and in certain localities extensive beds of gravel and conglomerate exist, made up entirely of water-worn pebbles of agate and chalcedony (Brown and Dey, 1955 : 621).

The *Rāmāyaṇa* (III. 1.1 : 19.8) and the *Mahābhārata* (Āraṇyaka parva. 83.38) mention the great forest tract of *Daṇḍakāranya*. This has been identified with the western Deccan by some scholars (Dikshitar, 1943–5 : 583) though others place it farther east in ancient Andhra (Ghurye, 1977 : 3).

Settlements during the Palaeolithic period were confined to river valleys, but spread to the plateau in the subsequent Mesolithic period. Natural caves located in the steep escarpments of basaltic hills overlooking the Konkan coast provide evidence of use. Prominent among them are the caves at Pachad and Hathkamba (Sankalia, 1974 : 246–8).

The importance of the passes along the Sahyadris as a means of communication between the Konkan and the interior seems to have been exploited in the Early Historical period and Buddhist caves are situated at the head of almost every important pass in the region. Thus with 184 caves, Junnar, at the head of the Nanaghat was the largest monastic establishment (Jadhav, 1981 : 84). The location of Junnar is ideal for agriculture also. It lies in a broad flat valley on the right bank of the Kukdi, a tributary of the Ghod. To the south-east the valley opens into the wide Deccan plain.

The Thalghat connected the coast with Nasik. The caves of Nanoli, Shelarwadi, Bhamchandra (Johns, 1876 : 252–3), Kondane, Karle, Bhaja, Ambivale and Bedsa lay near the Bhorghat and those at Nadsur and Karsamble were situated below the Vagjighat (Cousens, 1891 : 1,11). The present village of Ambivale is situated on an ancient mound and excavations at the site may prove valuable.[2] Kumbharlighat led to the caves at Karad and Patan. In the medieval period the passes continued to play an important role and forts were built to guard these routes.

The Narmada rises from the plateau of Amarkantak in central India and after traversing a distance of nearly 1300 kilometres westward enters the Arabian Sea past the town of Bharuch. Like the Tapti, the Narmada does not flow in its own erosion valley but occupies the fault plane or deep alluvium-filled rifts in the rocks between the Vindhya and the Satpura ranges. Its longitudinal profile shows the irregular character of its gradient marked by waterfalls, steep gorges, broad valleys filled with thick alluvial deposits in its middle course and wide flood and tidal plains in its lower course.

Owing to its rocky course, the Narmada is unsuitable for navigation east of Bharuch, except by country boats during the

[2] I am grateful to Shri M.N. Deshpande, ex Director-General, Archaeological Survey of India, for this information.

months between August and February. It is, however, fordable at several points, an important crossing being at Maheshwar. Large flat-bottomed boats still ferry carts and bullocks across the river at this point (Sankalia, 1962 : 32). Another drawback of the river is its unsuitability for irrigation owing to the height of its banks.

Exploration in the Narmada valley has revealed faunal remains of the Middle Pleistocene. Fossils include those of the *Bubalus Palaeindicus* (related to the modern buffalo), *Bos Namadicus* (the precursor of present-day cattle), *Cervus Duvauceli* (related to the *barasinga*), *Hippopotamus Namadicus*, *Equus Namadicus* (related to the horse), *Rhinoceros Unicornis* and *Elephas Maximus*. These represent ancestors of present-day species and indicate that the Narmada valley was a vast savannah land with floodplain lakes and swamps in which a varied assemblage of hooved mammals and reptiles flourished (Badam, 1981).

At the sites of Maheshwar and Navdatoli occupation dates from the Palaeolithic period to medieval times with a few breaks in habitation (Sankalia et al., 1958). At Kasrawad excavations revealed a Buddhist establishment and a stupa between the third and second centuries B.C. (*Report on the Administration of the Holkar State*, 1936 : 76; 1937 : 86; 1938 : 135; 1941 : 137).

Apart from the middle reaches of the Narmada, the remaining part of the valley in the western Deccan does not seem to have been occupied. A few stray microliths have been found in the lower Narmada valley but no sites have been discovered so far (Joshi, 1981). Macdonell and Keith in the *Vedic Index* suggest a reference to the Reva (identified with the Narmada) in the name Revottara which occurs several times in the *Śatapatha Brāhmaṇa* (XII.8,1,7; 9,3,1). The *Mahābhārata* mentions the Narmada several times as a tirtha (Āraṇyaka parva. 87.2; 80.71; 121.18, etc.). In the *Rāmāyaṇa*, Sugrīva instructs his army regarding the route to the south of the Vindhyas and mentions the river Narmada (IV.40.8). Ptolemy writing in the early centuries of the Christian era refers to the river as Namades (Ptolemy, VII.62–5). Mahiṣmati (identified with Maheshwar) finds a prominent place in Buddhist literature as the capital of Avanti; the epics refer to its association with the Haihayas (*Mahābhārata*, Anuśāsana parva. 2.6; 137.3); and both Kātyāyana (on Pāṇini, VI.1.63) and Patañjali (3.1.26) mention this ancient city.

The Tapti rises in the Satpura plateau and flows westwards, traversing a distance of over 720 kilometres to the Arabian Sea. A major part of the Tapti valley in the western Deccan is less than 300 metres above sea level. The river is at a lower level because of the deeply entrenched bed which in many places is as deep as fifteen metres from the basin level. Erosion along its banks by tributaries have rendered the region unfit for agriculture. As a result there is little density of population along the Tapti, the richest area being the crescent-shaped region halfway between the river and the mountains on the black soil region stretching from Nandurbar to Jalgaon.

The west Tapti valley corresponding to the modern district of Dhule offers a sharp contrast to the east Tapti valley (roughly corresponding to the present Jalgaon district). Owing to heavy rainfall and the consequent extensive forestation, cultivation in the west Tapti valley is limited only to the immediate banks of the river. Rice and ragi are the major crops, and in certain regions dairying is important because of abundant fodder supply (Deshpande, 1948 : 153). In the eastern tract cotton is the principal crop though medium-rainfall crops like millets, oilseeds and pulses are also grown. Like the Narmada the Tapti too is unsuitable for irrigation because of the height of its banks. Since the bed is crossed at several places by rocky ridges the river is navigable for only thirty kilometres upstream.

No Lower Palaeolithic site has so far been found in the Tapti valley though the valleys of its tributaries like those of the Kan-Panjra and the Gang-nala have yielded evidence of prehistoric occupation. The Middle Palaeolithic and Chalcolithic sites in the basin, however, are concentrated in the west Tapti valley. Prominent among the latter are Prakash and Savalda at the confluence of the Tapti and the Gomai; and Bahurupa, Bahal and Tekwada on the Girna.

In the Megalithic period, although the concentration of settlements had shifted to the Vidarbha region east of the plateau, a sprinkling of typical Megalithic pottery occurs at several sites in the Tapti valley as well. At Tekwada Black-and-Red Ware has been found along with Jorwe ware, while stone circles have been found at Ranjala in its vicinity (*IAR, 1960–61* : 32). Around 1000 B.C. there is a break in habitation and it is only later in the Early Historical period that most of these sites were reoccupied.

Ptolemy refers to the Tapti as Nanagounas (VII.66), though the identification poses several difficulties. In an earlier section (VII.7) Ptolemy locates the mouth of the Nanagounas at the same latitude as the town of Souppara (Sopara), which is actually farther south. In the same paragraph he also mistakenly locates the source of the river in the eastern part of the Vindhyas (Vogel, 1952 : 79).

In the epics there is no mention of the Tapti itself though the river Payoṣṇī mentioned as an important tirtha (Araṇyaka parva. 58.21; 83.37) in the *Mahābhārata* has been identified with a tributary of the Tapti in the Vidarbha region.

The Godavari rises on the eastern slopes of the Sahyadris near Trimbakeshwar in Nasik district, and flows across the Deccan in a south-easterly direction for over 1460 kilometres until it enters the Bay of Bengal. Near Nasik it flows along a narrow rocky bed and is not navigable in its upper reaches.

Rich fossiliferous deposits of the Upper Pleistocene period on the Godavari and its tributaries, the Pravara and the Manjra, have yielded remains similar to those found in the Narmada valley. These indicate both a heavily vegetated environment and savannah grasslands (Badam, 1981).

Culturally the upper Godavari basin is rich in archaeological remains ranging from the Palaeolithic age to the Historical period. Prominent sites of the Chalcolithic period are those at Nasik on both banks of the Godavari (Sankalia and Deo, 1955); Paithan (*IAR, 1965–66* : 54); Jorwe and Daimabad (*IAR 1958–59* : 15); and Nevasa (Sankalia et al., 1960) on the Pravara. At the end of the protohistoric period there is a break in habitation at all the sites until the Early Historical period.

At Nasik the settlement of the Early Historical period has been dated from the fifth century B.C. to the third century A.D. After this there is a second break in occupation, the last phase being the Muslim–Maratha period dated between 1400 to 1875 A.D. (Sankalia and Deo, 1955). In literature, Nāsikya (Nasik) is referred to by both Kātyāyana in his *Vārttika* (on Pāṇini. VI. 1.63) and by Patañjali in his *Mahābhāṣya* (6.1.63).

The settlement at Nevasa commenced a little later than that of Nasik and has been dated from the beginning of the second century B.C. to the third century A.D. after which the site remained uninhabited until the Muslim–Maratha period (Sankalia et al., 1960).

There are several references to Paithan in literary sources. The *Periplus* calls it Paethana and places it at twenty days' march south of Barygaza (sec. 51). Ptolemy refers to it as the capital of the king Puḷumāvi and places it in Ariake (VII.82). However, no systematic excavation has so far been undertaken at the site nor are any detailed reports available of earlier digs (Deo, 1981).

The Sātavāhana town of Bhogavardhana (present-day Bhokardan) also lies in the Godavari basin on the right bank of the now dry bed of the river Kelna (Deo and Gupte, 1974 : 1–5). Ter, in district Osmanabad on the west bank of the Terna, a stream of the Manjra, has been identified with Tagara by Fleet (1901 : 542–3). Earlier writers had identified this market-town mentioned in the *Periplus* (sec. 51) variously with Daulatabad, Junnar, Darur and Tavaragir (Chapekar, 1969 : 2). Ptolemy places Tagara in the region of Ariake (McCrindle, 1885 : 175).

The Godavari is also prominently mentioned in literature. According to the *Rāmāyaṇa* and the *Mahābhārata* (Āraṇyaka parva. 97.26) the hermitage of Agastya was situated within reach of Pancavaṭī on the Godavari (*Rāmāyaṇa*, III.14.12). The Bodhisattva is also said to have lived on the banks of the Godavari (*Jātaka*, Bk. XVIII : no. 522). Identified with the Goaris of Ptolemy (VII.6), the river continues to be regarded as sacred and several towns along its banks like Nasik and Paithan are places of pilgrimage.

The river Bhima, although a tributary of the Krishna, may be treated as a separate system since within the Western Deccan a major area is drained by it together with its tributaries the Ghod, the Sina, the Mutha, the Nira and the Man (Deshpande, 1948 : 138). The Bhima rises in the Sahyadris and, for the first sixty kilometres of its course flows through a narrow and rugged valley; farther east the gradient is lower and the banks are low and predominantly alluvial, though broken here and there by dykes of rock.

The Ghod valley has yielded abundant palaeontological material indicative of the environment during the Upper Pleistocene period. Here too the presence of fossils of elephants, cattle and deer point to savannah vegetation (Badam, 1981). Practically the whole of the Bhima basin today is dry, with an average rainfall of between fifty and seventy centimetres annu-

ally, the most arid being the central region. Low-lying valley tracts are covered with rich black soil, although the upland areas in the eastern part have poor topsoil. The aridity of this area has been overcome in recent times by canal irrigation and at present the south-western part of the basin comprising the talukas of Pune and Satara is densely populated (Deshpande, 1948 : 138–40).

In the protohistoric period the upper Bhima basin formed an important centre as indicated by the conglomeration of Chalcolithic settlements. Inamgaon and Chandoli on the Ghod were major sites, together with Theur and Sastevadi on the Mutha (*IAR, 1969–70* : 27) and Songaon at the confluence of the Nira and the Karha (Sankalia, 1974 : 473). The region was abandoned owing to famine conditions in the middle of the first millennium B.C., but again gained prominence with the ascendancy of the Sātavāhanas. The Maval or the region comprising the districts of Pune and Satara finds mention in Sātavāhana inscriptions as Māmālāhāra (Lueders, 1912 : no. 1105). The Bhorghat provided the much-needed line of communication between the hinterland and the coast and had a series of Buddhist caves in its vicinity.

The upper Krishna basin situated between the Sahyadris and the Mahadeo hills forms a distinct geographical region. Near the hills the river channel is rocky but it gradually opens out to form an almost flat tract. Owing to its southerly course the Krishna enters a wetter region near Karad at the confluence of the Krishna and the Koyna. South of Karad the plain broadens out still further and the meandering course of the river up to its confluence with the Panchaganga gives the plain its rich alluvial cover. In this region intensive diversified agriculture is typical on account of adequate rainfall and soil fertility. It thus constitutes one of the richest agricultural tracts of the western Deccan (Deshpande, 1948 : 134–5).

It is therefore unusual that though there is evidence of prehistoric occupation no protohistoric sites have been found so far. The earliest indications of permanent settlement are during the Sātavāhana period. Excavations at Kolhapur, situated on the right bank of the Panchaganga, have yielded a rich hoard of Sātavāhana antiquities (Sankalia and Dikshit, 1952). Literary references to the site are few and still controversial. Karavīrap-

ura on the river Vena across the Sahyadris mentioned in the *Harivaṃśa* (Adhyāyas, 39–44) is believed to be the earliest mention of the city. This topographical description, however, is considered too vague to allow any definite identification (Sankalia and Dikshit, 1952 : 8). Doubts have also been expressed on Bhandarkar's (1975, reprint : 34) identification of Hippokoura, the capital of Balaekouros mentioned by Ptolemy (VII.83) with Kolhapur and its ruler Viliyākura (Sankalia and Dikshit, 1952 : 7).

Fifty-four Buddhist caves approachable through the Kumbharlighat and situated five kilometres south-south-west of the town of Karad (Burgess, 1885 : 60), Karāhakaṭa of the Sātavāhana inscriptions (Lueders, 1912 : no. 705) have been referred to. Another two are located at Patan, thirty-two kilometres west-north-west of the same site. Eight caves are cut in the soft trap rock six kilometres north of Wai on the left bank of the Krishna (*Maharashtra State Gazetteer, Satara district*, 1963 : 809).

A possible reason for the occupation of the upper Krishna basin in this period may have been the discovery of gold reserves in its vicinity. Numerous ancient gold mines have been found in various parts of the Raichur doab south-east of the valley and the Dharwar rocks stretching south of the Krishna to the Tungabhadra are rich in gold-bearing ores (Brown and Dey, 1955 : 129).

This detailed treatment of the various relief regions has shown that these were neither equally endowed with natural resources nor uniformly occupied by human settlers. The location of the settlements is determined by the needs of the economy as well as those of the society. As a result a study of changes in settlement patterns provides a good indicator of changing needs.

The distribution of Palaeolithic sites shows that early man occupied a variety of ecological niches from heavy rainfall areas to semi-arid regions, though there is a concentration of palaeolithic finds where basalt dykes were available for tool making (Agrawal, 1982 : 41). As compared to this, there is a much wider occurrence of Mesolithic sites in the western Deccan with evidence of habitation extending to the Konkan coast as well, though a majority of the settlements along the coast may have

been temporary owing to scarcity of water for part of the year (Guzder, 1975:218). This extensive spread is explained by the abundance of agate, chalcedony and quartz in the western Deccan which formed the raw material for the tools. The remains of Neolithic settlements in this region are scanty, the most important site being Daimabad on the Pravara (*IAR, 1958–59* : 15) indicating the beginnings of agriculture. In the subsequent Chalcolithic period the larger sites were primarily agricultural settlements situated at strategic points along the rivers and a feature common to these was that they lay on high ground, girded by a river—a location comparatively secure from attack. In contrast to these were the smaller habitations characterized by a scatter of microliths and Jorwe sherds, conglomerated in the Dhule district.

Around 1000 B.C. there is evidence of arid conditions and famine in the western Deccan (Deo, 1982 : 5) and the concentration of settlements shifts to the Vidarbha region east of the plateau, the largest number of Megalithic sites being located in the district of Nagpur. Typical Megalithic sites in the western Deccan are few and include Ranjala in the west Tapti valley (*IAR, 1960–61* : 32) and Pimpalsuti near Inamgaon where fourteen stone circles have been found (Ansari and Dhavalikar, 1976–7 : 84–8). Available data indicates that after a time fresh occupation characterized by the use of iron took place at a few sites. At Prakash, Period II (Pd. II) (Thapar, 1967 : 5), and Bahal (Pd. II) in the Tapti valley (*IAR, 1956–57* : 17–18) and at Navdatoli in the Narmada valley (Pd. IV) iron objects occur along with black-and-red ware. This ceramic has also been found at Tekwada on the Girna (ibid., 18). The cultural environment of these pre-Northern Black Polished Ware (NBPW) iron using settlers in the Narmada and Tapti valleys has been insufficiently studied, a major handicap being the dearth of excavated material evidence, coupled with an absence of radiocarbon dates. Of great interest is the find of legged querns at Bahal (ibid., 19) and at Prakash (Thapar, 1967 : 105) as these are associated with iron-using cultures in the north and stand in marked contrast to saddle querns hitherto used in the Chalcolithic period. It has been suggested that the coming of the legged quern implies a distinct change in food habits. While the saddle quern was more useful for making a thick paste from

cereals the legged variety was best suited to grinding spices (Banerjee, 1957 : 14). It is tempting to associate this change with more complex factors as anthropological research in modern societies has shown that the preparation of food, including the way it is eaten and the utensils used, differ not only regionally but also from group to group. While availability may be a determining factor it also has associations with prestige and status (Karve, 1968 : 3).

It is difficult to date precisely the Early Historical settlements in the western Deccan, though on the periphery, a continuity of occupation from the Megalithic to the Sātavāhana period is indicated at some sites in the Vidarbha region. Maloney (1968 : 227) has shown that the gold of the Deccan plateau reached the west coast during the fourth century B.C. Fine hexagonally-cut beryls have been found in early levels at Taxila and in the pre-Mauryan or early Mauryan levels at Prabhas Patan (ibid., 214). The *Arthaśāstra* (II.11.2) refers to pearls from Tāmraparṇi, conch shells from south India (VII.12) and *vaidūrya* or beryl of various colours (II.11) probably from Padiyur in Coimbatore district.

The early looping trade impinging on the far south is said to have originated in Gujarat and Sindh and along the west coast (Maloney, 1968 : 286). Remains of a Mauryan stupa have been found at Banavasi on the west coast (ibid. : 40) indicating a possible route from Bellary district down to the coast and from there to Sopara and Bharuch. On the eastern side C14 dates from Dharanikota provide a range from 475±100 B.C. to 205±100 B.C. for the NBPW (Sarma, 1974 : 49–56). The nucleus of the stupa at Amaravati has been dated to the Aśokan period (Ghosh and Sarkar, 1964–65 : 169) and along with Bhattiprolu which would have been practically on the coast when the stupa was first built, may have been served by crafts cruising all along to Tamluk.

On the basis of recent parallels, Hornell has shown that a significant correlation exists between boat designs and definite regions along the coast, one of these being the Konkan. While boat designs of the north-west coast including the regions of Baluchistan, Sindh, Kutch and Kathiawar closely approximate those of Arabia, boat designs along the Konkan show greater variety and are marked by features indigenous to the region

(Hornell, 1918–23 : 139). Does this imply a greater role, historically, in coastal trade by the local populace?

A distribution of Aśokan inscriptions shows that there is a conglomeration in the Raichur and Kurnool districts of Karnataka and Andhra Pradesh respectively. Minor rock edicts have been found at Maski, Gavimath and Palkigunda in Raichur district; three in the vicinity of Siddapura in Chitradurga district; and a rock edict at Yerragudi in district Kurnool which has a second minor rock edict at Rajula-Mandagiri (Sircar, 1975 : 32). Apart from these, four more edicts of Aśoka have been discovered, two of them near Nittur and two others near Udegolam, both in the Siraguppa taluka of Bellary district (Gururaja Rao, 1978 : 117–18). These inscriptions mention Suvarṇagiri as Aśoka's southernmost provincial headquarters administered by a royal prince and identified with Kanakagiri, south of Maski (Hultzsch, 1969, reprint : xxxviii) or with Jonnagiri near Yerragudi (Sircar, 1975 : 32). This cluster of inscriptions stands in marked contrast to other solitary examples in the peninsula scattered at Amaravati, Dhauli and Jaugada on the east coast; at Sopara on the west; and at Rupnath (ibid.) and Pangoraria in central India (Sarkar, 1983 : 403–5). Recently Aśokan inscriptions have been found at Bayan in district Raisen (Deo, 1982 : 7).

Many of these inscriptions are found in association with or in the immediate neighbourhood of ancient gold mines and diamond workings. Thus the Maski edict is right on the gold field, while the inscriptions at Yerragudi are in the heart of a region long known for diamond mines. Yerragudi is within thirty kilometres of Vajra-Karur, a famous diamond mine which has signs of old workings (Wadia, 1975 : 455). Another striking feature is that Aśokan inscriptions show a close correspondence with Megalithic sites, e.g. as at sites like Maski, Brahmagiri and Amaravati.

This southern province of Aśoka located in Karnataka, maintained contact with the eastern Gangetic valley through several possible routes. One of them cut diagonally across the western Deccan and utilised the more accessible tracts on the leeward side of the Western Ghats. From Amaravati this route passed along the Krishna valley, then traversed the Nalgonda and Medak districts of Andhra Pradesh to Ter in district

Osmanabad and then proceeded to Paithan, Maheshwar, Ujjain, Vidisha, Sanchi, Kausambi, Sravasti and Kapilavastu (Deshpande, 1959 : 66–93). Evidence for this comes from the *Sutta Nipāta* (v. 1011–13) which traces the journey of Bāvarī's disciples northwards. Remains of pre-Sātavāhana settlements have been found at several sites along this route such as Maheshwar, Prakash, Bahal, Nasik and Bhokardan. The advantages of land routes over water routes may be judged from Kauṭalya's statement where he disagrees with his preceptor in favour of land routes (*Arthaśāstra*. VII.12.24). In the same text, Kauṭalya refers to the *dakṣiṇāpatha* as the southern route known for trade in shells, diamonds and precious stones, pearls and gold, and mentions that the route passed through several mines.

In the Sātavāhana period there was an overall increase in the number of settlements both on the coast and on the plateau. The fertile tracts of the upper Godavari and the upper Krishna valleys were extensively settled. The entire region was traversed by routes and the strategic importance of the passes of the Sahyadris is evident from the location of Buddhist caves. The Godavari valley with the Sātavāhana capital at Paithan had the largest number of settlements. This is explained by the fact that the Nanaghat connected the fertile Godavari valley to Kalyan on the coast and there is a relatively gentle gradient on the western side of the Sahyadris at this point (Kosambi, 1955 : 50–71). Another route from Kalyan to Nasik went via the Thalghat and continued up to Maheshwar (Moti Chandra, 1977 : 103). Bharuch was connected via Ajanta to Paithan and to Ter, from where routes went further to the east coast (Yazdani, 1960 : 138). According to the *Periplus* the journey from Ter to Paithan took ten days and from there to Bharuch another twenty days (sec. 51). The text refers to another route from Bharuch which went to Ujjain (secs. 47–8), while Ptolemy follows the route from Bactria to Bharuch (VII. 43–50). Both Bharuch and Sopara were ports of call not only for ships from the Mediterranean and other areas in the west, but also for those from the east. Buddhist literature makes several references to a regular trade between these ports and Suvaṇṇabhūmi (identified with Burma by Law, 1932 : 70).

A majority of the inland routes of the western Deccan in the

Historical period were dependent on the volume of trade handled at the ports along the west coast and were governed by the comparative importance of these ports. The trans-peninsular route, however, from the east coast across the peninsula to north-western Deccan or through the Burhanpur gap to central India seems to have continued in use. In the Mughal period Masulipatam in the lower Krishna valley was connected to Hyderabad via Bezwada and Anantagiri. From Hyderabad the route continued to Bidar and from there either to Ahmadnagar or to Aurangabad and then through the Burhanpur gap to central India. At Aurangabad, another route branched off to the north-west through the Kondaibarighat to Surat and Bharuch (Habib, 1982 : 14B, 15B). Similarly the principal trade route from the west coast to Afghanistan started from Surat in the seventeenth century and went via Agra and Delhi to Peshawar and Kabul (Eggermont, 1966 : 257).

The low rainfall areas of the western Deccan thus formed a corridor linking the north and the south and this provided a major means of culture contact between the two regions. From it subsidiary corridors ran eastwards into the forests of central India in the north, across the Deccan plateau to the Andhra coast in the centre and towards the Tamil plain in the south (Allchin and Allchin, 1982 : 271). The evidence from Daimabad suggests that the first agricultural settlements in the Western Deccan developed during the second half of the third millennium B.C. and throughout this early period the region had close links with a nuclear area to the north comprising roughly southern Rajasthan, Saurashtra and Malwa (ibid., 352). At the same time a substratum of influences from the south described as the 'Dravidian element' is also evident (ibid.) The interplay of the two cultural forces continued to mould the history of the western Deccan.

2
HISTORICAL BACKGROUND

The discussion has hitherto centred on earlier settlements in the western Deccan and the topographical factors that dominated settlement patterns. We shall now focus on the political environment during the Sātavāhana period. Sātavāhana inscriptions have been used to date the excavation of Buddhist caves in the western Deccan. These cuttings are in turn indicators of periods of prosperity as they were supported by donations from a large number of lay devotees. If a link is to be established between trade and the opening up of the western Deccan, we should, as a first step, determine the chronology of the Sātavāhanas.

Considerable reliance has been placed by a section of scholars on the *Purāṇas* for working out Sātavāhana chronology. The most important *Purāṇas* for this purpose are : the *Brahma, Harivaṃśa, Vāyu, Matsya, Brahmāṇḍa* and *Viṣṇu Purāṇas*. The *Vāyu* and *Brahmāṇḍa Purāṇas* agree closely and have probably the best account of the genealogies; the *Brahma* and *Harivaṃśa* show a close correspondence in their lists; the *Viṣṇu* account is mainly in prose; and the *Matsya* record is valuable and in many points an independent authority. The accounts given in the *Garuḍa, Agni* and *Bhāgavata Purāṇas* are later recompilations and not very dependable (Pargiter, 1962 : 77–80). Before we compare the dynastic lists of the Sātavāhanas, it is necessary to examine the reliability of the Puranic evidence.

Vaṃśānucaritam or genealogy forms one of the five characteristic features of the *Mahāpurāṇas*. These genealogies are interwoven with myths and legends about the kings and seldom refer to their political achievements. The complete lists of kings are not given in one place, but have to be collated from different chapters dealing with different dynasties. The texts of the different *Purāṇas*, sometimes even of different manuscripts of the same *Purāṇa* show material divergence by way of additions, omissions or substitutions of names (Majumdar, 1969 : 97). Though the authors of the *Purāṇas* claim great antiquity for the

itihāsa-purāṇa tradition, in the present written form the *Purāṇas* date only from the Gupta period. The historical value of these texts is further reduced by the fact that the *Purāṇas* represent a conscious and deliberate attempt at compilation of the scattered oral historical tradition hitherto preserved by the *sūtas* and *māgadhas* and later re-written by the various brahman families (Thapar, 1978 : 272). In this attempt their objective seems to have been to provide an elite status in the varna (*varṇa*) structure to a large number of tribes who had produced ruling families. It is not surprising then that the genealogies of oligarchies or rudimentary republics have been largely ignored. In the last chapter we shall mention references to the Andhra tribe in early literature and hence the need to include them in the Brahmanical fold once they had risen to power.

This social bias of Puranic literature should be borne in mind while using it for historical reconstruction. The *Purāṇas* are relevant primarily for making a rough outline of the dynasties and for providing a starting point. As such it becomes essential to use Puranic evidence in conjunction with other primary sources.

The Sātavāhanas referred to as the Āndhras or Āndhra-*bhṛtyas*, have been variously assigned between 300 and 460 years by different *Purāṇas*.[1] The discrepancy continues regarding the names of kings with the number varying between seventeen and thirty.[2]

The *Purāṇas* also mention that Simuka (whose name occurs in various forms) established Andhra rule after overthrowing the last Kaṇva king Suśarmā. Bhandarkar (1975, reprint : 43) has sought to explain the discrepancy between the *Purāṇas* by suggesting that the 300 years and 17 names given in the *Vāyu Purāṇa* refer probably to the main branch, while *Matsya* seems to have

[1] The *Vāyu* and *Brahmāṇḍa* have two relevant passages, one giving the duration of the dynasty as 300 years and the other as a little over 400 years. One manuscript of *Matsya* quotes 412 years, though most other manuscripts refer to the period as 460 years. The *Viṣṇu*, *Bhāgavata* and one manuscript of the *Brahmāṇḍa*, give 456 years (Pargiter, 1962a : 37).

[2] The *Vāyu*, *Brahmāṇḍa*, *Viṣṇu* and *Bhāgavata* record that there were Āndhra kings but do not provide details of all 30. The *Vāyu* refers to only 17,18,19 or 25 names and the *Viṣṇu* to 22,23 or 24, while *Brahmāṇḍa* and *Bhāgavata* mention 17 and 23 kings respectively. On the other hand, the *Matsya Purāṇa* says that there were 19 kings but three of its manuscripts give details of 30 rulers, while in others the number varies from 21 to 28 (ibid. : 35–6).

put together the princes of all the branches and thus arrived at the inflated figure of thirty. The Āndhras according to him came to power in 73 B.C. with Dhānyakaṭaka as their capital (ibid. : 40).

This has been countered by Srinivas Iyengar (1913 : 280) on the basis that the association of the Sātavāhanas with Dhānyakaṭaka is based on an erroneous reading of the phrase *dhanakaṭasamanehi*, i.e. śramaṇas of Dhānyakaṭaka, which occurs in the Nasik inscription of Vāsiṣṭhīputra Puḷumāvi (Senart, 1905–6 : 65). Bhandarkar has misinterpreted the phrase as *dhanakaṭa-sāminehi* or *dhanakaṭa-sāmiyehi*, i.e. by the lord of Dhenakaṭa. Epigraphical reference to the association of Dhānyakaṭaka with the Āndhras first occurs only in the Mayidavolu plates of the Pallava king Śivaskandavarman dated to the third century A. D. (Sircar, 1964 : 457).

The complexities of Sātavāhana chronology have resulted in two sets of opinion with some scholars (Sircar, 1968 : 195; Raychaudhuri, 1972 : 359; Barrett, 1954 : 14) dating the accession of the Āndhras after the downfall of the Kaṇva dynasty in 30 B.C., i.e. 294 years after Candragupta Maurya had overthrown the Nandas. Contrary to this, other scholars accept the authenticity of the detailed account of the *Matsya Purāṇa* and place the rise of Sātavāhana rule in the second half of the third century B.C. (Venket Rao, 1960 : 112; Gopalachari, 1957 : 295; Smith, 1957, reprint : 183–91; Altekar, 1952 : 40–5).

Perhaps the most plausible means of explaining discrepancies in Puranic literature would be to compare the dynastic lists with epigraphical evidence. A major handicap in arriving at absolute dates is the dearth of dated inscriptions of the early Sātavāhanas. The situation is not much better as regards later Sātavāhana records which mention the rulers' regnal years, but there is no certainty about the era in use. An alternative solution would be to reconstruct the chronology of the dynasty on the basis of a palaeographic analysis of the inscriptions.

Nearly 800 rock-cut caves were made during the Sātavāhana period of which 128 bear inscriptions (Nagaraju, 1981 : 311). The majority of them record donations and gifts by the inhabitants of different cities and towns and provide important clues to the social and economic history of the period. Twelve caves record royal inscriptions and provide valuable evidence for determining Sātavāhana chronology.

The earliest inscription is in Nasik and records the excavation of a cave during the reign of king Kanha (Burgess, 1964, reprint : 98). Another epigraph inscribed in a cave at the head of Nanaghat, thirty kilometres north-west of Junnar, by the widowed queen of Sātakarṇi[3] is significant in that it mentions the names of different members of the royal family while listing their generosity at Brahmanical sacrifices (Burgess, 1883 : 60–4). Against the back wall of the cave are traces of bas-relief portraits of Sātavāhana royalty identified by labels above their heads. The figures are now totally obliterated but the labels above them (some of them damaged) indicate that the portraits once depicted Simuka Sātavāhana, queen Nāyanikā, her husband Sātakarṇi, *kumāra* Bha . . . (obliterated), *mahāraṭhi* Tranakayiro, *kumāra* Hakusiri and *kumāra* Sātavāhana (ibid. : 64).

There seems to have been some difference of opinion regarding the identity of the queen responsible for the Nanaghat inscriptions (Mirashi, 1960 : 26 f.; Gupta, 1976; Mirashi, 1977 : 86–9), but the majority of scholars are now unanimous in attributing the inscription to the widowed queen of Sātakarṇi, who performed several Vedic sacrifices. A silver coin found at Junnar further corroborates this view. It has the legend *siri sāta (ka)* and Nāganikāya with the figure of a horse on the obverse, and the Ujjain symbol with a *svastika* on the reverse (Mirashi, 1977 : 89).

It has been suggested that the absence of Kanha's name at Nanaghat is due to the fact that 'being Simuka's brother he was a usurper of the throne, the Sātakarṇi who followed him being the son and rightful heir. Since Sātakarṇi's queen was responsible for the inscription she might have considered it proper to omit the name of the usurper' (Dehejia, 1972 : 19).

Some scholars date the Nanaghat inscription to the first half of the second century B.C. (Burgess, 1883 : 73; Mirashi, 1962 : 2) on palaeographic evidence. This early date is said to be supported by the Hathigumpha inscription of Khāravela which mentions that the Kalinga king despatched an army to the west without caring for Sātakarṇi, identified by these scho-

[3]The Girnar inscription of Rudradāman (Kielhorn, 1905–6a : 39–46), a Kanheri inscription (Burgess, 1883 : 78) and the Talgunda inscription (Kielhorn, 1905–6 : 24) establish that the name is to be spelt with the dental *sa* and not the palatal *śa*.

lars with Sātakarṇi I. The dating of the Hathigumpha inscription to the second century B.C. is itself controversial and is based on supposed references in it to the 165th year of the Muriya-kāla and the 103rd year after Nandarāja.[4] A fresh palaeographic analysis of these inscriptions, especially after the discovery of the Besnagar epigraph, suggests that the Nanaghat record may be placed not earlier than 70–60 B.C. (Dehejia, 1972 : 19, Shastri, 1972 : 104).

Sātakarṇi I is the third king of the Andhra dynasty as mentioned in the *Purāṇas*. The Nanaghat inscription of his queen engraved in 70–60 B.C. would lead to the conclusion that the Sātavāhana dynasty began its rule early in the first century B.C. (or *c.* 120/110 B.C., Dehejia, 1972 : 19).

The Hathigumpha script is said to bear a close similarity to the southern gateway inscriptions at Sanchi, and these are dated to *c.* 50–25 B.C. One of the latter records the gift of Ānanda, the son of Vasiṭhi, the foreman of the artisans of *rājan siri* Sātakarṇi (Lueders, 1912 : no. 346). It has been shown that this Sātakarṇi is the one mentioned in the Hathigumpha inscription and may be identified with Sātakarṇi II, the sixth ruler in the *Matsya* list (Dehejia, 1972 : 20).

After Sātakarṇi II there is an absence of dynastic inscriptions until the reign of Gautamīputra Sātakarṇi. The *Vāyu Purāṇa* enumerates nine kings to fill this gap, while the *Matsya* gives sixteen names. Of these Āpīlaka and Meghasvāti are known from one coin each (Altekar, 1960 : 792), while literary sources indicate two other rulers—Kuntala Sātakarṇi—who is referred to in Vātsyāyana's *Kāmasūtra*, and Hāla who is traditionally assigned the authorship of the *Gāthāsattasai*.

Perhaps the discrepancies in the Puranic lists arise owing to the uncertain fortunes of the dynasty at this time. There are ample indications that the Sātavāhanas were ousted from several areas of their dominions by the Kṣaharātas. The history of the latter rulers continues to be unsatisfactory and the only king who stands out is Nahapāna.

[4]Sircar places the Hathigumpha inscription at the beginning of the first century A.D. after the Nanaghat record and closer in time to the Sanchi inscription, as he attempts to identify both Sātakarṇis as Sātakarṇi I (Sircar, 1964 : 215). Lueders, on the other hand, declares that the Hathigumpha inscription contains no date at all (1912 : no. 1345).

Inscriptions of Nahapāna's son-in-law Uṣavadāta are found at Nasik (Burgess, 1964, reprint : 99) and Karle (ibid. : 101) and a record of his minister occurs at Junnar (Burgess and Indraji, 1976, reprint : 51). These are dated to between 41 and 46 years which have been interpreted as referring to the Śaka era of A.D. 78, and accordingly Nahapāna's last-known date has been taken as A.D. 124 (Mirashi, 1965 : 111–18). A valid objection to this assumption is that several events relating to the Kṣatrapas have then to be crowded in the short span of six years, i.e. from A.D. 46 to 52. Other scholars assign these to the Vikrama era of 58 B.C. (Venket Rao, 1960 : 100–1), though there are no other dates in that era from western India. These objections have been convincingly countered by Dehejia who concludes that the dates refer not to any known era, but as in the case of Sātavāhana inscriptions, to the regnal year (1972 : 23). Contrary to Sircar's view (1966b : 241–9) Nahapāna is generally identified with Mambaros or the Nambanus mentioned in the *Periplus*, the text being dated between A.D. 40 and 71. This provides evidence that Nahapāna was ruling in A.D. 71.

The dates of Nahapāna's rule are closely linked with those of Gautamīputra Sātakarṇi. The Nasik inscription of the latter's mother Balaśrī describes Gautamīputra as the uprooter of the Kṣaharātas and restorer of Sātavāhana glory (Burgess, 1964, reprint : 109). Evidence of Gautamīputra's victory over Nahapāna is also provided by the Jogalthembi hoard of coins. Of the 13,250 silver coins in the hoard, 9,270 coins of Nahapāna were countermarked by Gautamīputra Sātakarṇi (Scott, 1908 : 223–44). By collating the evidence from a Nasik inscription dated to the fourteenth year of Gautamīputra Sātakarṇi (Burgess, 1964, reprint : 104) corresponding to the 46th year of Nahapāna and from the Andhau inscriptions[5] of Caṣṭana and Rudradāman, Dehejia (1972 : 26–7) presents a strong argument for placing Nahapāna's rule from A.D. 54 to 100. These dates conform to those put forward by Altekar (1950 : 35–42) and Gopalachari (1941). Gautamīputra's reign may then be dated from A.D. 86 to 110.[6]

[5] These indicate that the Kṣatrapas ruled over Malwa in A.D. 125. Gautamīputra conquered Malwa and retained it during his reign. This would have been possible if he had defeated Nahapāna by A.D. 114 and conquered Malwa soon thereafter.

[6] An adjustment of four years would be necessary if Senart's reading is accepted.

According to the Puranic lists the successor of Gautamīputra Sātakarṇi may be taken as Puḷumāvi who ruled between A.D. 110 and 138. Bhandarkar (1975, reprint : 29) propounded the unique theory that Gautamīputra and his son Puḷumāvi reigned jointly, the latter in the western Deccan and the former in the east with his capital at Dhanakaṭaka. This has since been refuted by several scholars like Raychaudhuri (1972 : 491–7) and Sircar (1964 : 203). Puḷumāvi's inscriptions have been found at Karle (Burgess, 1964, reprint : 107, 113) and Nasik (ibid. : 107, 109) and for the first time outside the limits of the western Deccan at Amaravati (Burgess, 1887 : 100). He was succeeded by Śivaśrī Sātakarṇi who has been identified with the Vāsiṣṭhīputra Śrī Sātakarṇi mentioned in a Kanheri inscription (Dehejia, 1972 : 27). This epigraph describes his queen as a descendant of the Kārddamaka kings and the daughter of Mahākṣatrapa Ru . . . (Rudradāman) (Burgess, 1883 : 78). At this point of Sātavāhana chronology, inscriptional evidence is at variance with the list of the *Purāṇas*. The latter mention only one ruler by the name of Śivaśrī, whereas two kings by that name are known from inscriptions. We have referred to Vāsiṣṭhīputra Srī Sātakarṇi above. The other ruler is Vāsiṣṭhīputra Śiva Śrī Puḷumāvi, whose inscription has been found in front of the Madhukesvara temple at Banavasi and records the setting up of a memorial stone for his queen (Murthy and Bhat, 1975 : 34–9). Do these names refer to one ruler or to two? We shall attempt to answer this question in the next section and discuss the numismatic evidence in this regard.

The *Matsya* list mentions the next two rulers as Śiva Skanda Sātakarṇi and Yajña Śrī Sātakarṇi. Śiva Skanda Sātakarṇi has been identified with the Sātavāhana ruler mentioned by Rudradāman in his Girnar inscription of A.D. 150. This epigraph states that though Rudradāman defeated Sātakarṇi, the lord of the Deccan, twice, he did not destroy him on account of their 'not too distant relationship'. It has been suggested that Śiva Skanda was possibly not the son of Rudradāman's daughter but was born of some other queen of Śiva Śrī or else he was a successor and not a son (Dehejia, 1972 : 27). A fragmentary inscription from Amaravati mentions a King—Sivamaka Sada—who has been identified with Śiva Skanda Sātakarṇi (Burgess, 1887 : 61).

Yajña Śrī Sātakarṇi (A.D. 152–81) was the last important Sātavāhana king. His inscriptions include one at Nasik in the seventh year of his reign (Burgess, 1964, reprint : 114); two records in the caves at Kanheri, one of which is dated to his sixteenth year (Burgess, 1883 : 79); and an epigraph at Chinna in the Krishna district belonging to the twenty-seventh year of his reign. An inscription of Vāsiṣṭhīputra Catarapāṇa Sātakarṇi dated in the thirteenth regnal year and found at Nanaghat has also been ascribed to Yajña Śrī Sātakarṇi on the basis of a coin which bears the word *caturapana* together with the legend *Gotamiputa Kumaru Yajna Sātakani* (Indraji, 1883 : 313–14). Gopalachari suggests that *caturapana* may have been a Dravidian corruption of a name like Kṣatrapanaka (1957 : 295–8). Rapson also questions the reading and indicates that the legend may have been written in Tamil Brahmi (1905 : 797).

Inṣcriptions of the last three Sātavāhana rulers are confined to the eastern region of the Deccan. These include a record at Nagarjunakonda dated in the sixth year of Vijaya (Sarkar, 1966 : 273–4); an epigraph from Kodavolu, Godavari district, in the second year of Candraśrī (Lueders, 1912 : no. 1341); and an inscription at Myakadoni, Bellary district, in the eighth year of Puḷumāvi (Sukthankar, 1917–18 : 153–5).

The Tarhala hoard of late Sātavāhana coins has revealed the names of several rulers not mentioned in the *Purāṇas*, such as Kumbha Sātakarṇi, Kṛṣṇa Sātakarṇi and Śaka Sātakarṇi (Mirashi, 1940 : 83–94) and Kauśikīputra Sātakarṇi (Mirashi, 1946 : 116).

A Pali inscription on a large slate slab at Banavasi records the gift of a tank and a monastery by the daughter of Hāritīputra Sātakarṇi, 'the joy of Viṇhukaḍaḍuṭu race'. This inscription is dated in his twelfth regnal year. On palaeographic grounds, Buehler places this inscription at the end of the first or the beginning of the second century A.D. (1885 : 331–4). Another inscription of the same king has been found at Malavalli, Shimoga district (*Epigraphia Carnatica*, VIII : 251). These inscriptions testify to the existence of a line of Sātavāhanas called Cuṭukula which was in possession of south-western Deccan before the conquest of Banavasi by the Kadambas (Sircar, 1939 : 219). The relationship between the Cuṭu Sātakarṇis and the main line of the Sātavāhanas is still uncertain. It has been

suggested that as the Cuṭus were intimately connected with the Mahārathīs and the Mahābhojas, the branch of Kuntala was originally subordinate to the main line of the Sātavāhanas and that it shook off the yoke when the imperial power began to decline after Yajña Sātakarṇi (ibid.). Raychaudhuri (1972 : 445) is of the view that the Hāla credited with the *Gāthāsattasai* and the Kuntala Sātakarṇi mentioned in the *Kāmasūtra* belong to this so-called Cuṭukula in Kuntala.

An analysis of the inscriptions shows that the first epigraph is engraved at Nasik together with eight other records of the early Sātavāhanas. Nanaghat was chosen as the site for the important royal record of Nāyanikā, as the upper Godavari valley provided a fertile hinterland for the ports of the Konkan coast with the Thal- and Nanaghats forming strategic routes of communication. This has, however, not set at rest the controversy regarding the original home of the Sātavāhanas.

The *Purāṇas* refer to the Sātavāhanas as Āndhras or Āndhra-*bhṛtyas*. Bhandarkar takes the latter term to mean 'Andhras who were feudatories' (*Karmadhāraya samāsa*), but Sukthankar (1945 : 256–8) regards this explanation as unsatisfactory, especially since the term Suṅga-*bhṛtyas* or servants of the Suṅgas is taken in the *Purāṇas* to mean the Kaṇvas (*Tatpuruṣasamāsa*). It is perhaps the ambiguous references to the Andhra tribe living on the fringes of Aryan settlements in early literature, that have led scholars to propound various theories about the original home of the Sātavāhanas. We have discussed the views of Bhandarkar, who would place the seat of early Sātavāhana rule in the eastern Deccan at Dhānyakaṭaka. Burgess (1887 : 3–4) and Smith (1957, reprint : 184) have suggested Srikakulam as the likely capital. This has been criticised by Gopalachari (1957 : 298) on the grounds that it is based on the unsubstantiated evidence of a twelfth-century Telugu work. Gopalachari (1941 : 15–16, 26–7) and Sukthankar (1945 : 251–65) accept the Andhra connection of the Sātavāhanas and suggest that they had moved to the western Deccan even before the time of Simuka and Sātakarṇi.

Rama Rao (1953 : 35–8) proposes that the Sātavāhanas started their political career in Telengana, on the basis of the discovery of a coin with the legend 'Sātavāhana' at Kondapur. We shall discuss this in greater detail in the next section and

show that this coin cannot be assigned to the founder of the dynasty as several coins bearing the legend 'Sātavāhana' are known to have been issued by different kings of the dynasty. Rama Rao has argued further that the inscriptions of the first rulers are found in the western Deccan, not because that was their home, but because the Sātavāhanas had to shift their headquarters to counteract foreign invasions. This does not seem convincing as the first Graeco-Bactrian invasions in no way threatened the Deccan.

None of the Buddhist records discovered in the stupa at Amaravati and dated to the second and first centuries B.C. refers to the presence of the Sātavāhanas in Andhra. This provides reliable negative evidence as the association of the early Sātavāhanas with the Buddhists is well known; the second ruler, Kṛṣṇa, is known to have appointed a *mahāmātra* to look after the Buddhist *śramaṇas* (Burgess, 1964, reprint : 98).

Furthermore, use of the term Andhras is confined to the *Purāṇas*. The inscriptions, either of the rulers of the dynasty itself or of other kings like Khāravela or Rudradāman nowhere refer to the Sātavāhanas as Andhras. Andhra as the name of a tribe is evident from early literature and Aśokan inscriptions, but as the name of a region it first occurs in the third century A.D. Mayidavolu copper plates (Sircar, 1964 : 457). A plausible explanation is that Andhra was the name of a tribe or jati (*jāti*) while Sātavāhana was the name of the *kula* or clan. We shall discuss this at length in the last chapter.

Numismatic evidence, unless dateable, can be used merely to prove the existence of rulers, though attempts have been made to work out Sātavāhana chronology on this basis (Sarma, 1972 : 75–100). It should be stressed that though the overall pattern of coin finds may be of historical value, individual finds need not. Besides, coin hoards are an imprecise index of political and territorial expansion.

Sātavāhana currency was imposed on a more or less uniform system represented by the already prevalent punch-marked coins and there is evidence to suggest that the latter continued in circulation during Sātavāhana rule as well (Chattopadhyaya, 1977 : 101). Stratigraphic evidence from a number of sites indicates that uninscribed cast copper coins preceded the inscribed issues of the Sātavāhanas (Shastri, 1982 : 2). The

earliest Sātavāhana coins have been recovered from Kotalingala on the right bank of the Godavari, sixty kilometres from the district headquarters of Karimnagar. These die-struck copper and potin coins bearing the legend *rāño siri Chimuka Sātavāhanasa* are said to belong to the founder of the dynasty Simuka Sātavāhana (Sastry, 1978 : 10–21; Bajpai, 1981 : 302). This identification with the Simuka of the Nanaghat inscription has been convincingly countered by Gupta (1978 : 24). A reference to the second king Kanha may be seen in the Brahmi legend *Kanhasa* on an ivory seal found in the excavations at Nevasa (Sankalia et al., 1960 : 202).

Opinion is divided on the large number of coins bearing the ambiguous legend (*Siri Sātakaṇisa*, as several Sātavāhana kings are known by that name.[7] Lead coins with the legend *rāño Siri Sātasa* have been attributed by Rapson (1908 : 1–2) to western Malwa and accepted as issues of Sātakarṇi I. Coins from Tripuri (Katare, 1951 : 35–9) have a variation of the legend—*rāño Siri Sātisa*. The identification of Sāta and Sāti with Sātakarṇi seems doubtful as the coins reveal certain typological differences. It has been suggested by Gupta (1953a : 178–84) that these issues could be attributed to three different rulers; Sati, mentioned in the Nanaghat inscription of Nāyanikā; Māḍharīputra Śrī Sāta, whose record occurs at Kanheri (Burgess, 1883 : 79); or Saliputra Siri Sāta as mentioned on a coin in the Kaus collection. The wide time-span between these rulers further complicates the problem. Similarly a good deal of controversy exists about the attribution of coins which bear the legend *Siri Sādavāhana* or *Siri Sātavāhana*.[8]

[7] On typological grounds, however, coins found at Nasik, Nevasa (Sankalia et al., 1960 : 176–81), Bheraghat (Rama Rao, 1958), Pauni (Shastri, 1973 : 106), Tripuri and Amaravati have been attributed to Sātakarṇi I. An important issue of the ruler is the silver coin obtained at Junnar (Mirashi, 1977 : 89), which has the legend *Siri Sāta*[ka] and *Nāganikāya* together with the figure of a horse on the obverse, and the Ujjain symbol with the *svastika* on the reverse. This makes Sātakarṇi I the first Sātavāhana ruler to issue silver coins, a contention which has been disputed by Sarma (1980 : 107–8)

[8] Rama Rao (1961 : 12) suggests that these coins belong to Sātavāhana, the founder of the dynasty and the predecessor of Simuka. Sarma (1980 : 151 ff.) assigns these coins to the prince Sātavāhana mentioned in the Nanaghat inscription. Others have shown that palaeographically these coins can be divided into two main categories, with several subdivisions. It is thus clear that the coins cannot be assigned to a single ruler and that several kings used the name Sātavāhana or Sādavāhana for their issues (Siddique, 1977 : 77–84).

The next ruler known from numismatic data is Sātakarṇi II. His issues occur at Nasik, Nevasa, Paithan and Kolhapur in the western Deccan, and farther east at Pauni, Tripuri, Kondapur and Hyderabad. Sātakarṇi II is also the first ruler whose coins have been found at Karvan and Kamrej in Gujarat.

We have referred to the lacuna in inscriptional evidence between the reigns of Sātakarṇi II and Gautamīputra Sātakarṇi. Numismatic data generally corroborate this hiatus. Recently attempts have been made to identify single issues of rulers mentioned in the Puranic lists in this intervening period. These rulers include: Āpīlaka (from the legend *rāño Siva Sirisāpīlaka*); Meghasvāti (from the obverse legend *Hatamakasa*, and the reverse legend *ma tha*); Svāti (from the legend *Sātasa*); Puḷumāvi II (from the legend *ḷumāvi*); and Śiva Svāti (from *Sādasa*) (Ahmad, 1972 : 4). As is evident the legends on several of these are either not clear or can be differently interpreted.

Gautamīputra Sātakarṇi not only issued a large variety of coins of base metals but also circulated the silver issues of Nahapāna after restriking them. Of the 13,250 silver coins of Nahapāna in the Jogalthembi hoard, 9,270 were restruck with the name and devices of Gautamīputra Sātakarṇi (Scott, 1908 : 223–44). A copper coin of Nahapāna from Ajmer has also been attributed to him as it has on the reverse a tree with oval leaves, a symbol which occurs on several coins of Gautamīputra Sātakarṇi at Nevasa (Sarma, 1980 : 95). Gautamīputra is also credited with the independent issue of silver coins, and a coin with the legend *Gotami* may be assigned to him (Prasad, 1972 : 68).[9]

Gautamīputra Sātakarṇi was followed by Vāsiṣṭhīputra Śrī Puḷumāvi whose coins show as wide a distribution as those of his predecessor, though they seem to be absent in Gujarat. He was the first Sātavāhana king to issue bilingual and biscriptual coins (Gokhale, 1978 : 14). The dialect on the reverse has been variously identified as Tamil or as Telugu (Prasad, 1972 : 68–74). The use of bilingual coins definitely shows an increase in the area of circulation.

The next ruler according to the *Purāṇas* is Śivaśrī, identified

[9] Two coins without legends from Malwa have been attributed to Gautamīputra Sātakarṇi. The identification of the ruler may be debated but the provenance of the coin is important as these are the only Sātavāhana coins definitely located in Malwa (Gupta, 1953a : 183).

with Vāsiṣṭhīputra Śri Sātakarṇi of the Kanheri inscription. The Banavasi inscription, on the other hand, clearly mentions the name of the ruler as Vāṣiṭhīputa Siva Siri Puḷumāvi. The debate on the identification of these two kings arises from ambiguous references in the *Purāṇas*. Pargiter, in his reconstruction of the Andhra dynastic list, mentions Śiva Śri Puḷumāvi as the successor of Vāsiṣṭhīputra Puḷumāvi, the heir of Gautamīputra Sātakarṇi (1962a : 42), though elsewhere he refers to the king simply as Śiva Śrī (ibid. : 26). The *Viṣṇu Purāṇa* gives the name of the king as Sātakarṇi Śiva Śri and a manuscript of this *Purāṇa* enumerates two rulers in place of one and places a Sātakarṇi between Puḷumāvi and Śiva Śri.[10]

Analysis of the numismatic evidence shows that some silver issues, a lead coin from Sopara and one from Bhokardan may definitely be assigned to Vāsiṣṭhīputra Śrī Sātakarṇi (Rama Rao, 1958; Sarma, 1980). On the other hand, coins bearing the legend *raña Śiva Śrī Puḷumāvisa* and variations of it have been found at sites in the eastern Deccan in hoards obtained from Brahmapuri (Gupta, 1955–7 : 65), Wategaon (Mirashi, 1972 : 205), Chanda, Tarhala (Mirashi, 1940 : 83–94) and Hyderabad (Shastri and Sethi, 1975 : 25). This evidence seems to support the two-ruler hypothesis, giving separate identity to both Vāsiṣṭhīputra Śiva Śrī Sātakarṇi and Śiva Śrī Puḷumāvi. It may be conjectured that the two were contemporary kings ruling over different regions of the Deccan and hence the confusion in the *Purāṇas*.

Potin, lead and copper coins with the legend *khada Satakaṇisa* have been found in the Tarhala (Mirashi, 1940 : 83–94),

[10] Mirashi (1969 : 151–4), has tried to explain this discrepancy by suggesting that Śivaśrī was an honorific title and not a name. Hence Śiva Śrī Puḷumāvi may be equated with Vāsiṣṭhīputra Puḷumāvi, the successor of Gautamīputra Sātakarṇi. He in turn was succeeded by Vāsiṣṭhīputra Sātakarṇi and then by Śiva Skanda Sātakarṇi. This argument fails to convince as it is based on the evidence of the legend *raño Śiva Sirisāpīlakasa* the reading of which has been questioned by Gupta (1972 : 49). To accept Śiva Skanda as a title is thus arbitrary.

Rama Rao (1973 : 113–17), on the contrary, regards Śivaśrī as a personal name. He states : 'It is not, therefore, correct to take only Śiva Śrī Sātakarṇī into consideration and brush aside Śrī Puḷumāvi. As the identity or otherwise of these two names still remains a problem, it is most reasonable to designate this Sātavāhana king as Śiva Śri without any title and place him after Sātakarṇi IV' (ibid. : 117). Gopalachari (1941 : 66) and Sircar (1968 : 205) accept only one ruler after Puḷumāvi and that is Vāsiṣṭhīputra Śiva Śrī Sātakarṇi.

Brahmapuri (Gupta, 1955–7 : 62–73) and Wategaon hoards (Mirashi, 1972 : 205–12). Recently, a silver portrait coin has been obtained from Nasik bearing the legend *rañ . . . Siri Khana Satakaṇisa* (Gokhale, 1978 : 16–17). All these issues have been assigned to the next ruler Skandaśrī Sātakarṇi.

Base metal and silver coins of the last important ruler in the Sātavāhana line, Yajña Śri Sātakarṇi, have been found over a large area covering both eastern and western Deccan. The last three kings, Vijaya, Candra Śrī and Puḷumāvi III mentioned in the *Purāṇas* are known by a few issues. Numismatic evidence has revealed the names of some rulers not referred to in the Puranic lists. These include Rudra Sātakarṇi, Śaka Sātakarṇi, Karṇa Sātakarṇi and Kumbha Sātakarṇi. Elephant type coins with the legend *kosikiputa* [tasa] *sa* have also been assigned to the Sātavāhana dynasty, though the name of the king is still controversial (Ahmed, 1972 : 4).

Gupta (1955–7 : 71) suggests that a comparison of the Chanda and Tarhala and the Brahmapuri hoards indicates a bifurcation of the dynasty after Yajña Śrī Sātakarṇi or after Śrī Śaka whose coins occur in both groups of hoards. One branch of the dynasty ruled in the Chanda-Tarhala region and the other was confined to Brahmapuri. Vijaya, Kumbha and Karṇa Sātakarṇi are known from the Tarhala hoard, but their coins are absent at Brahmapuri. Rudra Sātakarṇi's issues occur at Brahmapuri only (ibid.).

In spite of this large number of coins recovered as hoards and surface finds, very few coins have been found in well-dated stratified deposits. As such the finds are of little value in ascertaining absolute dates for Sātavāhana chronology.

Excavations at Nevasa have yielded remains of six periods, the only two of relevance here being Period IV (Early Historical) and Period V (Indo-Roman). Both these periods have been dated on the basis of associated finds as there is no continuity of occupation at the site. Period IV shows evidence of fresh settlement and habitation ceases at the end of Period V. Associated with the former is the use of iron, black-and-red ware, a sprinkling of NBPW, two punch-marked coins and coins with the legends *siri Sātakarṇi* and *Sātavāhana* (Sankalia et al., 1960 : 69; Sarma, 1980 : 31). The introduction of NBPW is dated from the fifth and fourth centuries B.C. in the north, but is said to be 'later

south of the Narmada'. On the basis of this and silver punch-marked coins attributed to the late Mauryan period, the excavators have assigned the beginning of Period IV to the first half of the second century B.C. (Sankalia et al., 1960). Palaeographically coins with the legend *siri Sātakarṇi* have been ascribed to Sātakarṇi I and as they have been found in deposits dated to the early second century B.C., this has been taken as sufficient evidence to place the beginning of Sātavāhana rule in the third century B.C.

This argument for dating Sātavāhana rule is grossly inadequate, to say the least. NBPW is found over an extensive area and on the basis of radiocarbon dates it has been bracketed between 550 and 50 B.C. (Agrawal and Kusumgar, 1974 : 102). These figures are of not much use for working out a chronology as the dates for the introduction of the ware differ even at neighbouring sites like those of Hastinapur, Ahicchatra, Kausambi and Rajghat. Hence to assign NBPW at Nevasa to the second century B.C. is arbitrary. Similarly, punch-marked coins can no longer be confined to the late Mauryan period. The discovery of coin moulds for manufacturing punch-marked coins, in association with Sātavāhana objects at Kondapur shows that these coins continued in circulation under the Sātavāhanas as well (Chattopadhyaya, 1977 : 101). Another point to be reiterated is that coins can be used to provide relative dates only and not absolute ones, owing to the fact that coins are known to continue in circulation long after the rule of a king. Furthermore four of the five Sātavāhana coins at Nevasa have been found in the top layers of Period IV. Under these circumstances, it is not possible to fix absolute dates for the occupation deposit on the basis of coins or to use them to decide Sātavāhana chronology. It is unfortunate that radiocarbon dates from Nevasa are not of much help either. They appear to provide an earlier date for Period V than for Period IV (Kusumgar et al., 1963 : 278).

Results from other sites continue to be ambiguous. Some of the sites such as those of Paithan and Kondapur may be ruled out to start with as no detailed reports are available for these excavations. At Bhokardan, though on typological grounds a majority of the coins are assignable to the Sātavāhana period, very few of these can be attributed to specific rulers, owing to

the fragmentary nature of the legends.[11]

A detailed analysis of the numismatic data from the Brahmapuri excavations provides valuable evidence, though with little bearing on the chronology. It indicates that the Kura kings were supplanted by the Sātavāhanas in this area. Of the seven Sātavāhana coins recovered only one can be definitely assigned to a ruler, viz., to Yajña Śrī Sātakarṇi (Gupta, 1972a : 130). The occurrence of Viṣṇukuṇḍin coins in the top layers indicates that they followed the Sātavāhanas at Brahmapuri (Kolhapur).

The paucity of inscribed Sātavāhana coinage is a consistent feature at several excavated sites. At Maheshwar no Sātavāhana coin was found, though one specimen from the surface bears the legend *jño* (Sankalia et al., 1958 : 66). Excavations at Tripuri have yielded a coin with the legend *raño Siri Sātisa*. As mentioned earlier the identity of this ruler continues to be dogged by controversy (Dikshit, 1955 : 126). A similar situation exists at Pauni where the only Sātavāhana coin has the letter *sa* on the obverse (Deo and Joshi, 1972 : 33). Only two silver coins were recovered from Paunar, both assignable to Rudrasena (Deo and Dhavalikar, 1968 : 11). At Ter most of the coins were damaged except ten which carried the ambiguous legend *Sātakaṇisa* (Chapekar, 1969 : 19–21). Of the eight coins found at Nasik, three can be attributed to the Sātavāhanas but none of these are inscribed (Sankalia and Deo, 1955 : 30–3).

Excavations at Chandravalli show that this region was perhaps a later addition to the Sātavāhana kingdom. The earliest layers (7) to (10) have yielded coins of Sadakaṇa Kaḷalāya Mahārathī, Sadakaṇa Chatakaṇha Mahārathī and Sadakaṇa Kaṇa Mahārathī-puta in the pre-Puḷumāvi period. Apart from these, the excavation yielded few inscribed coins attributable to the main line of the Sātavāhanas. Three coins from layers (5) and (6) are not of much use as one of them is damaged; another has an incomplete legend; and the third may be assigned to any one of the rulers with the title Puḷumāvi. A well-dated coin found in layer (5) is the Roman denarius of Tiberius (26–37 A.D.), together with a potin coin of Yajña Sātakarṇi. This only proves that the associated finds cannot be earlier than the first

[11] Of these a copper specimen from the topmost layer (1) can be assigned to Gautamīputra Sātakarṇi, while another from an earlier layer (3) bears the legend *savasara sadakaṇa*, leaving the identification of the ruler in doubt (Deo and Gupte, 1974 : 23).

century A.D. (Wheeler, 1947–8: 287–9).

Coins have also been found in the excavations at Kaundinyapur (Dikshit, 1968 : 135), Nagarjunakonda (*IAR 1956–57* : 38) and Satanikota, district Kurnool (Ghosh and Shastri, 1981 : 8–16). Unfortunately, these are of little help in determining Sātavāhana chronology.

In view of these problems, numismatic data may be treated with caution in a quest for an absolute Sātavāhana chronology and greater reliance should be placed on inscriptional evidence. A criticism often levelled against taking the first century B.C. as the date for the commencement of Sātavāhana rule in the western Deccan is that it creates a political vacuum between the fall of the Mauryas and the rise of the Sātavāhanas in the region (Nagaraju, 1981 : 23). This argument is not valid since numismatic evidence suggests that after the fall of the Mauryas several cities acquired power and issued their own die-struck coins. The coins of cities like Mahiṣmati (Gupta, 1953 : 70–3) and Tripuri (Katare, 1951a : 40–5) are well known. To this list may now be added Tagara or Ter (Gupta, 1971 : 37–40). The pre-Sātavāhana Kura kings at Brahmapuri and the Kaḷalāya rulers at Chandravalli have already been referred to. The Bhattiprolu inscriptions only a few decades later than Aśoka's reign mention a non-Sātavāhana ruler like Kuberaka (Sircar, 1964 : 227). Recent coin finds at Kotalingala in the middle Godavari valley indicate the existence of two more pre-Sātavāhana rulers: Gobhadra and Samigopa (Bajpai, 1981 : 302). Stratigraphic evidence of the excavations at Brahmapuri, Chandravalli, Nevasa, Pauni and Bhokardan clearly indicates that uninscribed cast copper coins preceded inscribed monetary issues including those of the Sātavāhanas. A fairly large number of uninscribed cast and die-struck specie in cheap metals like copper, potin and lead has been reported in recent years from areas which are known to have passed later under the Sātavāhanas (Shastri, 1982 : 2).

On the basis of historical events described in the *Mālavikāgnimitram* of Kālidāsa, Shastri (1972 : 106–7) postulates that Vidarbha rose to an independent status under Yajñasena while Magadha was being ruled by Puṣyamitra Śuṅga (*c.* 187–51 B.C.). The recovery of coins of Sātakarṇi I from Pauni, on the other hand, suggests that Vidarbha formed a part of the king-

dom of the early Sātavāhanas. This evidence indicates that Yajñasena ruled some time after the fall of the Mauryas and before the rise of the Sātavāhanas. It thus supports the first century B.C. date. Elsewhere in Vidarbha, notably at Khaiwara and Bhagi Mahari, district Nagpur, there is evidence for continuity of occupation from the Megalithic to the Sātavāhana period.[12]

A study of the development of coinage in north India shows that legends appeared rather late in the history of numismatics. Opinion on the issue is divided : some regard it as an indigenous development; while others view it has a result of Greek influence. It is generally agreed that this new development cannot be dated earlier than the first century B.C. (Shastri, 1972 : 107).

To sum up, it may be said that the available evidence favours the theory that Sātavāhana rule commenced early in the first century B.C. The location of early inscriptions suggests that the western Deccan, especially the upper Godavari valley, formed the epicentre of early Sātavāhana rule. The distribution of coins generally bears out this observation. After an initial setback, Sātavāhana fortunes revived under Gautamīputra Sātakarṇi whose reign has been dated A.D. 86–110. This period coincided with the most prolific phase of rock-cutting in the western Deccan (Dehejia, 1972 : 185).

Under later rulers Sātavāhana sway gradually extended to parts of the eastern and south-eastern Deccan. It is generally accepted that the rule of the dynasty came to an end around the beginning of the third century A.D. and that the Sātavāhanas were followed by the Abhiras and other rulers in the western Deccan.

[12] This information has been gratefully received from Dr S. B. Deo, Deccan College, Pune.

3
SĀTAVĀHANA SETTLEMENTS

The diverse ecological niches that characterize the western Deccan have been discussed in Chapter 1. The west coast provided important outlets for the region, but was otherwise marked by poor agricultural productivity; besides, settlements at the mouths of short torrential rivers had little scope for agricultural expansion with the added disadvantage that on account of the rocky terrain the rivers were useless for navigation. The upper reaches of the Godavari and Bhima systems however, have pockets of fertile and rich agricultural land and these pockets did support Chalcolithic village communities but these had soon to be abandoned owing to increasing aridity and a fall in agricultural production. Intensive agriculture in these restricted pockets was a complex process made more difficult by problems of water-logging associated with the black cotton soil. Increased productivity involved a series of variables starting from a choice of crops, a judicious use of irrigation and the need for the iron plough. A greater portion of the western Deccan comprised the inhospitable Deccan plateau with poor soils and scanty rainfall. A significant feature which could, however, be used to tremendous advantage given suitable circumstances was the presence of passes and well-defined routes of communication which could be easily defended in times of aggression.

These ecologically varied zones could only be sustained by a unifying political authority which ensured distribution of scarce resources within the niches and which could profitably utilize the revenues obtained thereby to maintain the required military strength to enforce its authority. The nature of this political authority will be dealt with in Chapter 5; here we shall explain changes in settlement pattern that coincided with the rise of the Sātavāhanas in the first century B.C. The functional and spatial relationship between a centre and the area immediately surrounding it is crucial to any understanding of state genesis and

growth, and this aspect will be discussed and analysed in the later part of the chapter.

An intriguing phenomenon of the early centuries of the Christian era is that the prosperity of the western Deccan is by no means an isolated example; urban centres appear to be more widespread than before and occupation spreads to hitherto deserted areas. This is true of both north Rajasthan and Gujarat. In the iron-rich Chota Nagpur region a localized culture developed in the Khunti area of Ranchi district. It was characterized by baked brick houses and fortifications as at Saradkel (*IAR 1964–65*) situated mostly on highlands near streams or water reservoirs. These settlements, called Asura sites, were perhaps inhabited by iron prospectors and smelters (Ghosh, 1981). In the peninsula the prevailing Megalithic culture gave way to urban centres, emporia and ports. This concerted and extensive development may have had its roots in economic demands, like those of long-distance trade, the stimulus having perhaps come from Mauryan penetration into the peninsula. Each region, however, followed a distinct trajectory of development.

While in Vidarbha the Megalithic period continued until the time of the Sātavāhanas, in the western Deccan, the situation was different. The Mauryan period led to the establishment of new areas of settlement, such as Sopara, the site of an Aśokan edict (Sircar, 1975 : 33) and Bharuch on the west coast. It is difficult to form a complete picture of the settlement pattern at this time owing to the limited vertical excavations. At a majority of sites like Maheshwar, Prakash, Bahal, Nasik, Nevasa, Bhokardan, Kaundinyapur, Pauni and Ter, the Early Historical levels have been assigned to the Mauryan period largely on the basis of the NBPW sherds and punch-marked coins. Neither of these provides a firm criterion for dating with the added disadvantage that a general time bracket obliterates any evidence of change in the settlement pattern.

At western Deccan sites, pre-Sātavāhana settlement is characterized by modest structures of mud with wooden posts and floors made of fine clay and lime. Ring-wells are in evidence (Sankalia et al., 1958 : 35). Iron was used for weapons such as arrowheads and daggers, and for implements such as sickles and chisels (*IAR, 1956–57* : 18); copper was restricted to rings; glass was employed for the manufacture of ornaments; and

bone points were generally found (Sankalia et al., 1958 ; 1960). Beads made from a variety of materials like terracotta, shell, steatite and semi-precious stones were common. Apart from the NBPW, pottery comprised the coarse red, black-and-red and black wares.

Structural relics indicating Buddhist influence in the western Deccan in the pre-Sātavāhana period include remains of an incomplete brick stupa at Maheshwar (Sankalia et al., 1958 : 21) and those of another at Kasrawad, about five kilometres south-south-west of the former site (*Report on the Administration of the Holkar State for 1936* : 76; *1937* : 86; *1938* : 135; *1941* : 137). At Pauni, the earliest phase of the brick stupa is also said to belong to the pre-Sātavāhana period (Deo and Joshi, 1972 : 117).

Epigraphic and numismatic evidence suggests that the early Sātavāhanas established themselves in the upper Godavari valley and that their dominion included Malwa as well (Map 3), though they lost this part of their kingdom to Nahapāna or perhaps his predecessor (Sircar, 1966b : 245). The *Periplus* does not mention Lata (south Gujarat), but sec. 41 of the text seems to include south Gujarat in Ariake (Aparānta). In a later section (52), the *Periplus* refers to the passing of Kalyan from the line of the elder Sarganes (probably Śātakarṇi I) to Sandanes. Sylvain Levi (1936) has equated Sandanes with Kaṇiṣka and propounded the theory of the Kuṣāṇa thrust in the western Deccan. This theory has been successfully refuted by several scholars (Mukherjee, 1968 : 109), and Khandalavala has suggested that Sandanes was probably a viceroy of Nahapāna (1956–57 : 14).

Confrontation between the Sātavāhanas and the Kṣatrapas finds corroboration in the inscriptions of the latter at Karle, Nasik and Junnar and the hoards of Kṣatrapa coins counterstruck by Gautamīputra Sātakarṇi, e.g., the Jogalthembi hoard. One of the Nasik inscriptions of Uṣavadāta mentions the rivers Barnasa, Iba, Parada, Dhamna, Tapti, Karabena and Dhanuka across which free ferries by boats were established (Senart, 1905–6 : 78–80). Except the Tapti, all the others are small streams, most of them draining the Konkan coast. The Kṣatrapas evidently lost out in this struggle and the Nasik inscription of Balaśrī, Gautamīputra's mother, describes him as the uprooter of the Kṣaharātas and restorer of the glory of the

Sātavāhana settlements in the western Deccan

Sātavāhanas (Burgess, 1964, reprint : 109). This inscription is the only one which gives a list of regions included in Gautamīputra's kingdom and describes him as the lord of *asika-asaka-mulaka-surathа-kukurāparānta-anupa-vidabha-ākarāvanti and vijha-chavata-paricāte-sayha kaṇhagiri-maca-siritana-malaya-mahida-seṭa-giri cakora-pavata* (ibid.).

Sircar, on the basis of a passage in the Hathigumpha inscription of Kharavela, suggests that the region of Asika lay between the Krishna and the Godavari rivers, to the south of Asaka (1964 : 205), while Mirashi identifies it with Khandesh (1944 : 168). From a reference in the *Mahābhārata*, the Asmakas are one of the *Kṣatriya* tribes (Udyog parva. 4.15). Rhys Davids, on the other hand, places Asaka north-west of Avanti, the settlement on the Godavari being a later colony (1970, reprint : 27–8). According to the Assaka Jātaka (Bk. II : no. 207) there was a king named Assaka who reigned in Potali which is stated to be on the border of the kingdom of Kalinga. Mulaka according to the *Sutta Nipāta* was the district around Pratiṣṭhāna (Paithan) (Gairola, 1965 : 17–22), where the Mulakas, a small tribe, dwelt. Vidabha may be taken as the region of Vidarbha. Surathа (south Kathiawar with the capital at Girnar); Kukura or north Kathiawar (Law, 1954 : 287); Aparānta or north Konkan (Gupta, 1973 : 45) or the entire Konkan coast (Gairola, 1956 : 17–22; Law, 1954 : 13); Anupa with the capital at Mahiṣmati and Akara-avanti (eastern and western Malwa with the capitals at Vidisha and Ujjain respectively) are also mentioned in the Junagarh inscription of Rudradāman. The Śakas thus reconquered from the Sātavāhanas the territories won by Gautamīputra from Nahapāna (Sircar, 1964 : 203). Of all these regions, the only one that is referred to in other Sātavāhana inscriptions as well, is Aparānta. An epigraph at Kanheri records the gift of a cave and a cistern by Dāmilā, Bhojikī of Aparānta and an inhabitant of Kalyan (Burgess, 1883 : 84). Aparānta seems to have been under Sātavāhana rule at the time of Ptolemy who refers to it as the Ariake of the Sadenoi as distinct from Larike or south Gujarat (Sircar, 1966b : 248). Hence Rudradāman recovered only north Aparānta or south Gujarat.

The reference to Malaya (Western Ghats) and Mahendra (Eastern Ghats) implies a claim to sovereignty of the entire

Deccan peninsula, while the other mountain ranges extend largely in the western half. These included the Vijhachavata or the Vindhyas; Paricāta or the Aravallis; Sayha or the Sahyadris; Kaṇhagiri or the Salsette hills; Maca or Ramsej to the north of Nasik and Siritana or Seṭagiri, a hill near Nagarjunakonda (Sircar, 1964 : 204). Seṭagiri had earlier been identified with Nanaghat (Bakhle, 1926 : 351–2).

Inscriptions thus provide an outline of the rise of the Sātavāhanas from the time of Simuka described as *dakhinapaṭ-hapati* (Sircar, 1964 : no. 82) to that of Gautamīputra, the *sātavāhanakula-yasa-patithāpaka* (ibid. : no. 86). Gautamīputra Sātakarṇi is the first ruler whose coins and coin moulds (*IAR, 1956–57* : 38) have been found in the eastern Deccan and his successor Vāsiṣṭhīputra Puḷumāvi for the first time introduced bilingual legends on his silver coins.

This gradual expansion into eastern Deccan may have been as a result of the unsettled conditions in the western Deccan or else in response to the need to control the fertile lower Krishna valley. An inscription found at Vasana in district Dharwar recording the making of a pillar by a carpenter for the temple of Mahadeva during the time of Vāsiṣṭhīputra Śrī Puḷumāvi indicates the southward expansion of Sātavāhana rule (*IAR, 1981–82*, cyclostyled : 202) as well. Gupta (1955–7 : 71) suggests that a bifurcation of the dynasty is indicated on the basis of numismatic evidence after the reign of either Yajña Śrī Sātakarṇi or Śrī Śaka. One branch ruled in the Chanda-Tarhala region and another in the Kolhapur area.

The kingdom of the Sātavāhanas was divided into *āhāras* or districts; Govardhanāhāra with its centre at Govardhana identified with the large modern village of Govardhana-Gangapur on the right bank of the Godavari, nine kilometres to the west of Nasik (Law, 1954 : 284); Sopārakāhāra mentioned in a Kanheri inscription (Burgess, 1883 : 76); Māmālāhāra of a Karle inscription represented by Maval, the hilly portions of the Pune and Satara districts (Lueders, 1912 : no. 1105); and Sātavāhanihāra of the Myakadoni inscription (Sircar, 1964 : no. 90) comprising the Bellary district of Karnataka (Gupta, 1973 : 48). Kāpurāhāra mentioned in a Nasik inscription of Nahapāna and placed in the old Baroda State indicates the adoption of this nomenclature by the Kṣatrapas (Fleet, 1910 :

97; Senart, 1905–6 : 82–5). Settlements in the vicinity of Paithan do not appear to be included in any *āhāra*, but probably formed a separate category. An inscription at Kanheri refers to the construction of a *kuṭi* and a hall in Paithanapatha (Burgess, 1883 : 76). An *āhāra* was perhaps divided into smaller units as an inscription at Nasik refers to *Govardhanāhāre dakkhiṇamage* as well as *puvamage*, the term *maga* possibly used in the technical meaning of a subdivision (Burgess, 1964, reprint : 111).

The term *āhāra* first occurs in a single pillar inscription of Aśoka at Sarnath where it has been inscribed as *āhāle* and in a minor rock inscription at Rupnath (*āhāla*). It is contrasted with 'all the territories (surrounding) forts', i.e. tracts not yet fully pacified, but held by military posts (Hultzsch, 1969, reprint : xi). The general Mauryan term is, however, *janapada*, which is also used in the *Jātakas* (Bk. XII, nos. 467, 469) and in the *Arthaśāstra* of Kauṭalya (II.2.1). The division of the Sātavāhana region into *āhāras* (literally food) holds out the possibility that administrative boundaries in this period coincided with agricultural units, as distinct from Paithanapatha which was perhaps a trade-route extending from Ter to Bharuch.

Changes in the sea-level during the last 5,000 years ranging between half to one metre[1] have resulted in the erosion and destruction of several sites along the coast. This, compounded by human interference has led to the annihilation of precious evidence regarding early historical port-sites. A port and a city of great importance on the Konkan coast was Bharuch (Barygaza, Bṛgukaccha and Bharukaccha) situated at the mouth of the Narmada. After the gulf of Barake (Dwaraka) is the bay of Barygaza and the mainland of the country of Ariake (*Periplus* : sec. 41). Lassen took Ariake to include southern Gujarat, while Indraji equated it with Aparānta (Schoff, 1974, reprint : 174–9). The *Periplus* further lists articles brought to this port from Ujjain (sec. 48).

One of the *Jātakas* (Bk. V : no. 360) narrates how certain merchants (*vāṇijā*) of Bharukaccha sailing for Suvaṇṇabhūmi were approached by Sagga, the minstrel, requesting remission of his passage money in return for his services as a minstrel on the journey. On their acceding to his request, he set out from Varanasi and reached Bharukaccha. The Suppāraka Jātaka

[1] Personal communication from Dr S. N. Rajguru, Deccan College, Pune.

(Bk. XI : no. 463) refers to Bharukaccha as a *pattanagāma* where the Bodhisattva was born in the family of a master mariner (*niyyāmajeṭṭhassa putto hutvā nibbatti*). The *Jātakamālā* of Āryaśūra (no. XIV) provides an interesting twist to the narrative. The port where the Bodhisattva lived is here called Supāraga. The merchants sailing for Suvarṇabhūmi embark from Bharukaccha, touch at the town of Supāraga and request the Bodhisattva to accompany them. The *Milindapañha* (Horners tr. : 172) while enumerating people who would come to admire a newly laid-out city, mentions the inhabitants of Bharukaccha and Aparānta. The former is also mentioned in the *Divyāvadāna* (545–76), where its establishment is attributed to Bhiru, a minister of the king Roruka. Bharukaccha and Roma or ancient Rome are almost juxtaposed in the Sabhā parva of the *Mahābhārata* (28.49.50).

The site of Bharuch traces its present occupation to the late historical period dating from about the sixth century A.D. This continuous habitation of the site has posed problems for excavators and it has only been possible to dig vertical trenches, thereby greatly limiting the data available for study. The ancient settlement at Bharuch came into existence in the latter half of the first millennium B.C. and was surrounded by a mud rampart. Around the beginning of the Christian era, the mud rampart was provided with a heavy brick revetment; the characteristic Red Polished Ware came into use; and there is evidence of the manufacture and use of terracotta skin rubbers, beads, shell bangles, metal objects and stone sculptures. The Kṣatrapa affiliations of the site are indicated by the presence of lead and copper coins of the dynasty in its lowest and middle levels. There is a break in occupation around the fifth century A.D. (*IAR, 1958–59* : 69; *1959–60* :19).

Bharuch lies on the right bank of the Narmada about fifty kilometres from its mouth. Its vicinity is a fertile plain of black soil. Hardly any rocks occur within fifty kilometres of the coast (*Imperial Gazetteer of India*, I, 1909 : 318). The *Periplus* describes in detail the dangerous passage through the narrow gulf to Barygaza/Barugaza (identified with Bharuch):

> The bay which [leads] to Barugaza being narrow, it is difficult for those coming in from the sea to enter . . . the mouth of the river by

Barugaza is difficult to find because the country is low, and nothing can be observed with certainty till one is nearer . . . Because of this, the royal fishermen of the district round the entrance go up with fully-manned long ships called *trappaga* and *kotumba* as far as Surastrene to meet [incoming ships] which they pilot to Barugaza. (Huntingford, 1980 : secs. 43, 44).

The importance of Bharuch lay in its strategic location. Situated at the northern tip of the west coast, it provided an outlet both for the settlements of the Deccan and for the cities of north India such as Ujjain, Vidisha and Mathura (Deshpande, 1981 : 38).

The Nasik inscription of Uṣavadāta mentions the construction of rest houses at Bharukaccha (Senart, 1905–6 : 78–80). Inscription 20 at Junnar records the gift of a two-celled cave by the brothers Budhamita and Budharakhita, inhabitants of Bharukaccha (Burgess and Indraji, 1976, reprint : 49). In the vicinity of Bharuch a few other sites have been discovered, the largest number of antiquities having been found at Nagal. These include beads, ivory and bone points and net-sinkers and copper-antimony rods. There seems to be no evidence of fortification or brick structures (*IAR, 1957–58* : 66).

In the gulf of Barygaza, Ptolemy locates Kamane to the north of the Narmada estuary (VII.5), while the *Periplus* mentions Kammone to the south (sec. 43). Ptolemy then goes on to give the coordinates of Nausaripa, identified with Nausari on the west coast, about thirty kilometres south of Surat and Poulipoula located by Yule at Sanjan on the coast (Sastri, 1927 : 38 f). The *Periplus* mentions Sopara and Kalyan as market towns of the west coast and describes the blockade of the latter port by Sandanes. Ptolemy, on the other hand, after describing the gulf of Barygaza mentions Soupara, the mouth of the river Goaris, Dounga, the mouth of the river Benda, Simylla, a mart, Hippakoura and Balipatna (VII.6). Dounga has been identified with Dugad, fifteen kilometres south of Bhiwandi, while Goaris and Benda are seen to refer to the Godavari and the Bhima by Yule, and the Vaitarna and the Bhiwandi by Campbell (Saletore, 1962 : 41–84). Johnston (1941 : 208) was of the view that Dounga is Dongri opposite Bassein at the north end of the island of Salsette and that the rivers referred to are the Ulhas and the Amba. He also equates Dounga with Dhenukākaṭa.

These identifications, however, remain hypotheses and have not been substantiated by excavation.

Fragments of the major rock edict nos. eight and nine of Aśoka engraved on a boulder at Sopara (Sircar, 1975 : 33) close to one of the old landing places, are the earliest evidence of occupation at the site. Subsequent excavations which have been in the nature of vertical trenches have unearthed ring wells (Contractor, 1957 : 47) and remains of a 3.5 metre thick fortification wall with a ditch (*Journal of the Bombay Historical Society*, 1939 : 187). In the second century A.D. a brick stupa seems to have been constructed at the site. It has been suggested that this stupa may have been reopened and reconsecrated during the Mahayana period (Dikshit, 1939 : 3). Ancient relics may still be seen around Sopara for a distance of about twenty kilometres including the site of Gas (*Maharashtra State Gazetteer, Thane District*, 1982 : 1054–5).

A legend in the *Mahābhārata* (Śānti parva. 49.41) explains the name Sūrpāraka (Sopara) as being derived from *śūrpa*, a winnowing basket. It is narrated that Paraśurāma reclaimed the land from the ocean with the aid of a *śūrpa* and built temples at the site for the brahmans. According to the *Mahāvaṃsa* (VI.46,47) Vijaya, the first king of Ceylon, travelled from Sopara to Sri Lanka. The *Jātakas* are silent regarding the place though it appears in the later version of the *Jātakamālā*. The *Divyāvadāna* (42 f.) mentions it as an important centre of trade and commerce.

Donations by the inhabitants of Sopara are recorded at the monastic establishments of Karle, Kanheri and Nasik. Inscriptions nos. 8 and 9 at Karle mention gifts of pillars by Satimita of Soparaka, the sister's son of *bhadanta* Dhamutaraya (Burgess and Indraji, 1976, reprint : 31–2). Kanheri inscription no. 12 records the donation of a cistern by a merchant (*negama*) from Soparaga, while no. 20 mentions the donation of a cave by a jeweller (*manikara*) (Burgess, 1883 : 78, 82). The Nasik inscription of Uṣavadāta refers to him as one who has constructed rest houses at several places, Sopara being one of them. It goes on to list the donations made by Uṣavadāta at the Rāmatīrtha in Sopara (Senart, 1905–6 : 78–80).

As contrasted to this, Kalyan is little-known archaeologically. No excavations have been carried out at the site and only

stray finds of the Red Polished Ware and beads have been reported so far (*IAR, 1957-58* : 67). Inscriptions refer to an Ambālikāvihāra at Kalyan and inhabitants of the city have made donations at Junnar and Kanheri. Goldsmiths (*suvaṇakāra*) from Kalyan gifted a cistern at Junnar (Burgess and Indraji, 1976, reprint : 53–4) and another at Kanheri, while sons a treasurer (*heraṇika*) donated a caitya (*caitya*) at Junnar (ibid.). Donations at Kanheri include several made by the merchants (*negama*) of Kalyan (Burgess, 1883 : nos. 15, 16, 18, 19); one by Dāmilā Bhojikī of Aparānta, an inhabitant of Kalyan; and another by a blacksmith (*kamāra*) of the same place (ibid.).

The *Periplus* has an interesting passage on the conflict between the rulers of Barygaza and Kalliena to capture external trade:

> Kalliena [Calliena], which in the time of the elder Saraganes [probably Sātakarṇi I] became a legal mart; but since it came under Sandanes [perhaps a viceroy of Nahapāna] [the trade] has been much hindered, and Greek ships which by chance enter these places are sent under guard to Barugaza (Huntingford, 1980 : sec. 52).

Possibly the earliest caves on the west coast were those at Thanale and Kondivate. At Thanale Aśokan punch-marked coins have been found,[2] while at Kondivate architectural evidence suggests that the caitya and a few viharas (*vihāras*) were cut around 100 B.C., the single inscription having been engraved much later (Dehejia, 1972 : 152–3). An unpublished inscription at Kondivate records the donation of a *vedikā* by a person from Paithan.[3]

Further south the *Periplus* mentions the port of Semylla, identified with modern Chaul to the south of Bombay (sec. 53). Chaul lies on the right bank of the river Kundalika and at the head of the Roha creek, thus providing a convenient harbour for coastal craft (da Cunha, 1876–7 : 57). In the vicinity of the modern city of Bombay there are at least 130 Buddhist caves at Kanheri, Kondivate, Marol, Magathana and Mandapeswar. Of these, the largest monastic establishment was at Kanheri with 109 caves, though some of these are as late as the ninth and tenth centuries A.D. (Fergusson and Burgess, 1880 : 348). It is difficult precisely to date Buddhist remains in this area on

[2] Personal communication, M. N. Deshpande, 1983. [3] Ibid.

account of later conversion and occupation. Another hazard has been the search for relics which has resulted in the demolition of several stupas. Kondivate, one and a half kilometres north of the village of Marol was perhaps the site of the earliest caitya in the western Deccan (Dehejia, 1972 : 153).

Magathana, six kilometres to the south-west of Kanheri is mentioned as Magalathana in one of the Kanheri inscriptions (Lueders, 1912 : no. 1024). The ancient remains at the site are a small mound near the Dev tank on top of which may be seen two small Buddhist stupas. By the side of another pond in the same village there stands a small temple-like shrine; the temple having been built out of the materials used for the monastery. On the borders of Magathana village are a series of rock-cut caves popularly known as the Poinsar caves. In close proximity to these is a small hamlet known as Devi-ka-para where numerous loose pieces of stone with Buddhist symbols have been found. Some of these remains have been dated to the sixth–seventh centuries A.D. though others may undoubtedly be much earlier (Dikshit, 1942 : 500–4). Jivdhan Hill lies one and a half kilometres east of Virar railway station and has the ruins of old fortifications on top. Within these fortifications are some caves and water cisterns which have not been dated (*Maharashtra State Gazetteer, Thane District*, Bombay, 1982 : 996–7).

Inscriptions of the Sātavāhana period at Kanheri mention donation of land in villages situated possibly in the vicinity of the monastic establishment. Inscription no. 18 records the endowment of a field in the village (*gāma*) of Saphau by a *negama* from Kalyan (Lueders, 1912 : no. 1000); another mentions the gift of money and a field in the village of Magalathana, identified with Magathana, about six kilometres to the south-west of Kanheri (ibid. : no. 1024) and a third records the gift of a village called Śakapadra, again by a merchant (Gokhale, 1975 : 21–5). Chechiñña mentioned in the Nasik inscription of Uṣavadāta (Senart, 1905–6 : 85) has been identified with Chichana or Chinchani in the Thane district of Konkan (*Bombay Gazetteer*, 1883, XVI : 635).

About sixty kilometres to the south of Kanheri is the town of Chaul, the Semylla of the *Periplus* (sec. 53) and Simylla of Ptolemy. An inscription at Kanheri records the gift of a cave by a merchant of Chemulya or Chaul (Gokhale, 1975 : 23). The

Periplus continues its enumeration of market towns and includes Mandagora (Bankot), Palaepatme (Dabhol), Malizigara (Jaigarh or Rajapur), Byzantium (Vijayadurg), Turannoboas (Malvan) and Togarum (Deogarh). Palaepatme is mentioned by Ptolemy as Balepatne (VII : 7), while the Hippokoura of Ptolemy (VII.6) has been identified by Yule with Kuda and by Campbell with Ghodegaon in Kolaba district (Saletore, 1962 : 46). Another Hippokoura is mentioned later in the text as the capital of Balekorus (VII.83).

Caves are located in the vicinity of most of these towns. Two small caves lie at Kol near Bankot (Burgess, 1885 : 74); another twenty-six are located at Kuda overlooking the Rajapur creek, while an additional twenty-eight are situated at Mahad to the south-east (Burgess and Indraji, 1976, reprint : 3). The only settlement mentioned in the Kuda inscriptions is that of Karāhakaḍa (Karad), one of whose inhabitants, an iron-monger, donated a cave (ibid., 16).

Perhaps the sole evidence of an Early Historical wharf is provided by a brick structure in the now defunct Rajbandar port in Elephanta island off Bombay. Situated between the stupa hill and the cave hill, the rectangular wharf measures 16m×13m×3.5m. On the basis of amphorae pieces, Red Polished Ware and Kṣatrapa coins found in contemporary levels, it has been dated to the second to fifth centuries A.D. (Rao, 1981).

Whereas rock cutting was considerably reduced at a majority of sites in the western Deccan around A.D. 200, at the end of the second phase, evidence from sites in south Konkan suggests a fresh impetus. Thus the caves at Khed, Chiplun and at the recent site of Panhale (Kaji) are dated to the end of the third or the beginning of the fourth century A.D. (Deshpande, 1981a : 20–52).

The largest settlement on the west coast appears to be centred in the Ulhas basin with the market towns of Sopara and Kalyan situated in close proximity to each other. Sopara appears to be the more important of the two, possibly the 'administrative' centre of Sopārakāhāra. Another conglomeration of settlements is located around Bharuch, in contrast to the market towns of south Konkan which are primarily ports and appear to stand in isolation. Sopārakāhāra and the region

around Bharuch appear to be on an equal footing during the period of the *Periplus* but the former seems to have taken the lead in the early centuries of the Christian era, resulting in the establishment of the vast monastic complex at Kanheri. This development is understandable when the advantages of the two regions are weighed. Bharuch provided an outlet for cities like Ujjain, Varanasi and Paithan, and formed the terminal point for routes extending across the peninsula, as long as the western Deccan was not opened up for agriculture. Once an agricultural base was established, Kalyan and Sopara seemed to be the natural choice as outlets along the coast. Merchants did not have to contend with the dangers of entering the port of Bharuch; Sopārakāhāra extended across the fertile Ulhas basin with its enormous agricultural potential and it controlled the routes across the Sahyadris, through the Thalghat, Nanaghat and Bhorghat. The ports of south Konkan offered poor competition, owing to the unsuitability of the region for agriculture and more difficult acess to the hinterland.

Ptolemy refers to south Konkan as the Ariake of the pirates (VII.7) indicating the risks of piracy along the west coast and corroborating Pliny's statement (VI.26) that merchants who sailed from the Egyptian ports to India carried troops with them. A different explanation has been suggested by Campbell who asserts that there is no mention of pirates by Ptolemy, instead the reference is to the Āndhra-*bhṛtyas* (Sastri, 1927 : 38f.).

Another characteristic feature of the settlement pattern is the marked correlation between monastic establishments and market towns. To some extent monks are dependent upon urban centres for their subsistence, but the inscriptions speak of a far more complex relationship between the two.

The inland country beyond Bharuch according to the *Periplus* 'encompasses many lands as well as deserts and great mountains, and wild animals of many kinds . . . and there are many populous tribes as far as the Ganges' (Huntingford, 1980 : sec. 50). Contrary to this rather daunting description, the central Narmada valley nurtured the kingdom of Anupa with the capital at Mahiṣmati. This was one of the regions included in the domain of Gautamīputra Sātakarṇi and reconquered later by Rudradāman (Sircar, 1964 : 178). Excavation has been carried out at the twin sites of Maheshwar and Navdatoli situated on an

ancient crossing of the Narmada (Sankalia et al., 1958), the former identified with Mahiṣmati. In the Early Historical period, there is evidence for the use of small huts with wooden posts and floors made of fine clay and lime. Construction also started on a large brick stupa, 25.8 metres in diameter with a circumambulatory passage, but it was apparently left incomplete. Uninscribed cast, punch-marked and tribal coins (Ujjayini) were recovered from this phase of occupation (ibid. : 66–7). Around 100 B.C. the site of Navdatoli was abandoned and settlement continued at Maheshwar on the opposite bank of the river. Red Polished Ware was the characteristic pottery in use and, as at other sites in the western Deccan, this period is marked by an increase in constructional activity and a greater variety in crafts. Fragmentary terracotta tiles have been found in the Early Historical period (ibid. : 205) and legged querns replace saddle querns, legged querns being better suited for grinding spices (ibid. : 236).

At least four inscriptions at Stupa I at Sanchi record gifts from inhabitants of Mahisati or Mahiṣmati. Unfortunately only the names of donors are mentioned and there is no indication of their occupations (Lueders, 1912 : nos. 375, 497, 498, 501).

About five kilometres south-south-west of Maheshwar is Kasrawad identified with the ancient site of Intbardi, also on the Narmada. Excavation revealed remnants of a dilapidated stupa constructed of brick indicating the presence of a Buddhist establishment around the third–second centuries B.C. In addition were fragmentary remains of residential blocks, a hall and a reservoir. Sherds of *surāhīs* of the red burnished ware provided significant data for working out contacts and trade. These were inscribed with words in the Brahmi script of the second–first century B.C. and read *sihila* (Simhala or Sri Lanka?), *takesilie* (Taksasilayah or Taxila) and *nigaṭasa vihāre dīpe*. It is possible that the *surāhīs* contained oil, one of them being donated for lighting lamps at a vihara. Coins from the site include silver and copper punch-marked and cast coins (*Report on the Administration of the Holkar State for 1936* : 76; *1937* : 86; *1938* : 135; *1941* : 137; Diskalkar, *1949* : 1–18).

Another fording point across the Narmada is situated near Tripuri, district Jabalpur, the site well known for issuing its own coinage in the post-Mauryan period. The Sātavāhana

period is represented by Period IV of the excavator and marked the construction of two Buddhist viharas at the site, together with a proliferation in crafts. As at Kasrawad, a large quantity of potsherds were found, stamped with Buddhist symbols (Dikshit, 1955 : *IAR, 1965–66* : 2; *1966–67* : 17; *1967–68* : 23).

There is a sprinkling of settlements in the Tapti valley (districts Dhule and Jalgaon in Appendix III), most of them yielding sherds of the Red Polished and other wares. Limited excavation at Prakash (Thapar, 1967 : 5–167) and Bahal (*IAR, 1956–57* : 17–18) add little to our knowledge of the settlement pattern of the western Deccan, though they do provide information on the crafts practised, such as the making of beads of agate, carnelian and crystal; shell bangles; a circular copper mirror (ibid.); terracotta votive tanks; pulley-shaped ear ornaments of jasper and crystal; an ivory comb (Thapar, 1967 : 5–167); bone stylii and a perfume casket (ibid.).

Bahada, mentioned in one of the Ajanta inscriptions, is seen to refer to Bahal (Ghosh, 1968 : 241). The same name is also identified in a Bharhut inscription which records the gift of a pillar by Ananda, son of Isirakhita and which reads *Bahaḍagojaṭiranatana* (Lueders, 1912 : no. 721) though a Late Historical record of A.D. 702 refers to the site as Bahalapuri. It is likely that Bahalapuri may be some other settlement, as the archaeological evidence indicates that the site of Bahal was destroyed by a flood in the early centuries of the Christian era and was occupied again only during Yadava times in A.D. 1200.

The route proceeding southwards from Mahiṣmati to Bhogavardhana and Pratiṣṭhāna passed the caves at Ajanta and Pitalkhora. Activity at the former site appears to have started *c.* 80 or 70 B.C., with the excavation of caitya X and vihara XXX, followed by caitya IX and vihara XII. Most of the paintings of caityas IX and X were completed at this time (Dehejia, 1972 : 158). The twelve caves at Pitalkhora lie about seventy-five kilometres west-south-west of Ajanta as the crow flies and belong to the same period (ibid. : 156). On the basis of architectural similarities, caitya IV at Aurangabad has been dated to the first century B.C. The entire frontage of the caitya has now collapsed and there are no indications to help date it precisely (ibid. : 158).

We have already referred to the reference to Bahal in an Ajanta inscription. Another early damaged epigraph from the latter site reads *dhamadevasa* [pa] . . . [tha] *nasa pasāda* [dā] *na pavajita* and may refer to a gift by Dhamadeva of Paithan (Dhavalikar, 1968 : 147–8). Inhabitants of Paithan are known to have made donations at Pitalkhora as well. An inscription on a pillar of the caitya records the gift of Mitadeva, a perfumer (*gādhika*), while another is the gift of the sons of Saghaka from Paithan (Burgess and Indraji, 1976, reprint : 39).

Bhogavardhana or Bhokardan lies on the right bank of the now dry bed of the river Kelna. On the left bank is the village of Alapur with a series of mounds, yet untapped. The settlement at Bhokardan has been traced to modest beginnings in the pre-Sātavāhana period; it declined towards the end of Sātavāhana rule, though the settlement continued till the early medieval period (Deo and Gupte, 1974 : 18). No town plans are available; the evidence suggests that in the Sātavāhana period houses were built of brick laid in clay mortar over a planned foundation of pebbles. 'The floors were well made by means of rammed clay and the roof supported by wooden posts and covered with tiles which could be interlocked with the help of channels and ridges on the nether surface and fixed on to rafters below with the insertion of nails through the perforations on the tiles' (ibid. : 211).

A wide variety of ceramics have been found at the site, including specimens of Red Polished Ware and sherds with Brahmi letters or Buddhist symbols inscribed on them (ibid. : 104). Nearly two thousand beads made from eighteen different materials like agate, amethyst, carnelian, faience, garnet, ivory, opal and shell have been found (ibid. : 118). Amongst these, specimens of jade and lapis lazuli are relatively few, perhaps on account of their being imports. The site seems to have been a centre of bead-making as several unfinished beads have been found together with two soapstone moulds and possibly a bead polisher. Other crafts practised were those of shell, ivory and terracotta working. Exquisitely carved shell bangles were riveted with copper or iron pins, while white marine shell was shaped into stoppers and bottles (ibid. : 215). Bone and ivory was used for *kohl*-sticks, beads and points. An ivory figure found here is similar to specimens found earlier at Pompeii and Ter

(Barrett, 1960) and may have been used as a mirror handle. Nearly 700 terracotta objects have been recovered and include a diverse range like discs, gamesmen, crucibles, whorls, pendants, anthropomorphic pots and no less than twenty-two votive tanks. In comparison, kaolin objects were few (ibid. : 143).

A large number of bone points have been found at Bhokardan (ibid. : 190) and also at several other sites in the Deccan, e.g. Nasik as well as in Early Historical levels in the Gangetic valley. Several conjectures have been made regarding their use and they have been described as arrow-heads, stylii, weaving needles or ornaments (Sankalia et al., 1958 : 222).

The commercial importance of the settlement is further reinforced by the find of coins, seals, sealings and coin moulds. A total of 260 coins were recovered from the site. Of these three were punch-marked and the rest assignable to the Sātavāhanas on typological grounds. Only five had legends and could be attributed to particular rulers of the dynasty (Deo and Gupte, 1974 : 19). An oval sealing bears a Brahmi legend reading *ṭhanenagaragatāyā ida* and it has been suggested that it belonged to a lady from Thane *nagara*, the city being modern Thane near Sopara (ibid. : 77). This solitary bit of evidence is rather inadequate to prove the existence of a city hitherto unknown from any other source.

The inhabitants of Bhogavardhana are known to have made donations at Sanchi and at Bharhut, though these records make no mention of the occupations of the donors (Lueders, 1912 : nos. 264, 266, 295, 296 and 572), the sole exception being a pillar inscription at Bharhut, the gift of Arya Kṣudra (Aya Chula), the *suttāntika*, i.e., one versed in the Sūtrāntas (ibid. : no. 797).

The ancient Paithanapatha presumably continued from Bhogavardhana to Paithan, the latter situated about twenty days' journey from Bharuch and requiring another ten days for the route to continue to Ter. From both these places, merchandise was brought to Bharuch by wagons over great tracts without roads (*Periplus* : sec. 51). Ptolemy refers to Baithana as the royal seat of Siri Ptolemaios (VII.82) and a monk from Paithan is known to have made donations at Sanchi (Buehler, 1894 : Stūpa I, no. 12). The *Sutta Nipāta* mentions Paithan as the first place to be passed by Bāvarī's disciples on their way to

Sravasti from the hermitage of the sage in Aśmaka country (vs. 1001; 1011–13). An inscription on a pillar of the caitya at Pitalkhora records the gift of Mitadeva, a perfumer from Paithan, while another pillar is a gift from the sons of Saghaka, also from Paithan (Burgess and Indraji, 1976, reprint : 39). A Kanheri inscription records an endowment made to a vihara at Paithan (Burgess, 1883 : 76), as well as a *kuṭi* and a hall excavated in Rajatalaka Paithanpatha (ibid.).

The ancient site of Paithan on the Godavari spreads well over four square kilometres and several mounds rising to as high as eighteen metres above the present water level have legendary associations. One area is said to contain the remains of a Sātavāhana palace. A large number of antiquities like coins, moulds, terracottas and pottery have been repeatedly recovered in casual digging and river bed clearance. In spite of this, no systematic excavation has been carried out at the site and whatever little was excavated by Yazdani in 1936–7 and by Dikshit in 1965–6 remains insufficiently published.

Ter, on the left bank of the river Terna, lies in the major cotton centre of the western Deccan. In 1901, Cousens noticed extensive mounds on both banks of the river to the south of the present town. These were covered with brick and pottery débris and contained at one point 'the foundations of brick walls of an early type of construction' (*AR-ASI, 1902–3* : 108). The most important ruin at the site is that of a brick caitya subsequently converted into a Hindu temple standing in a small crowded courtyard in the middle of the settlement (ibid. : 197).

A much publicised find from Ter is that of an ivory figurine eight centimetres in height, possibly used as the handle of a mirror (Barrett, 1960). The Ter specimen appears to be somewhat later than the famous Pompeii ivory figurine. The site has also yielded a large number of terracotta and kaolin figurines made in double moulds and remarkable for the range of coiffure and ornaments; beads of semi-precious stones; coins and jewellery moulds; shell amulets; decorated handles; a range of ancient ceramics (Chapekar, 1969); and a large number of lamps with nozzle wicks, simulating Roman workmanship (*IAR, 1966–67* : 25–6).

During excavation (*IAR, 1968–69* : 17) a number of vats for dyeing cloth were unearthed, reminiscent of the statement of

the *Periplus* that much common cloth, all kinds of muslins and mallow cloth were brought from Ter to Bharuch (sec. 51). Further south, at Arikamedu, cisterns or vats for dyeing the muslin had earlier been identified in the 1945 excavation (Wheeler et al., 1946 : 27). There is also evidence of a fortifying wooden palisade around the settlement (*IAR, 1974–75* : 32). In the vicinity of Ter, two unexcavated but seemingly interesting sites are those of Vadgaon and Irle. Exploration at the former site, twenty-four kilometres south of Ter showed the presence of a brick stupa in the Early Historical period (*IAR, 1957–58* : 66), while an extensive mound, 3.24 hectares in area was noticed at Irle sixteen kilometres south-east of Ter (*IAR, 1974–75* : 32).

This leads to the conclusion that at the time of the *Periplus*, i.e. in the first century A.D., the route from Ter to Bharuch across the western Deccan was the most prosperous. Inhabitants from cities along this route made donations at the monastic establishments of Pitalkhora, Sanchi and Bharhut, the only exception being Ter. From Ter the trade route went southwards, feeding the Medak–Hyderabad region where Kondapur is located and proceeded via Akkenpalle, Nalgonda district, where a large hoard of Roman coins of the first century has been found to catch up with the Krishna valley at Nagarjunakonda. Beyond this the route would have branched off in different directions to reach the sea coast. But the main road seems to have followed the course of the Krishna itself, connecting the Buddhist settlements of Goli, Rentala, Gurzala, Kesanapalli and Amaravati all on the south bank (Chatterjee, 1976 : 110). With the development of outlets at Kalyan and Sopara, the route across the Deccan seems to have lost some of its importance. No new caves were excavated at Pitalkhora and Ajanta after the initial phase dated to the first century B.C., though these sites were later occupied in the Mahayana period. Goods from sites like Bhogavardhana, Paithan and Ter may have been diverted across the ghats to the ports of the Konkan.

The preoccupation of the *Periplus* with market towns linked to Bharuch may be taken as a possible explanation for its silence with regard to Nasik, though Ptolemy mentions it after the city of Barygaza (VII.62). *Nāsikyam nagaram* (Nasik) is referred to by both Kātyāyana in his *Vārttika* (on Pāṇini VI.1.63) and by Patañjali in his *Mahābhāsya* (6.1.63). It must have been an

important place for the early Sātavāhanas, as their first epigraph records the construction of a cave during the reign of Kanha, the second ruler of the dynasty (Senart, 1905–6 : 93). Subsequently there are eight more records of the early Sātavāhanas, mentioning gifts and donations to the monks of Tiraṇhu hill, and five of the Kṣatrapa kings. Uṣavadāta's inscription in cave X at Nasik mentions the donation of sixteen villages to the gods and brahmans and the feeding of one-hundred-thousand brahmans all the year round (Senart, 1905–6 : 78–80). The Nasik inscription of Gautamīputra Sātakarṇi refers to him as *Benākaṭakasvāmi*, the terms being translated as the lord now residing at Benākaṭaka situated in the Nasik region (Burgess, 1964, reprint : 104).

Rock cutting at Pandu Leni, Nasik, extended over a period of several centuries. Starting with the excavation of the tiny vihara XIX in the first century B.C., occupation at the site continued during the Mahayana period, when several new caves were cut and older ones converted to Mahayana usage. Excavation at the town of Nasik, however, indicates that the site was deserted at the end of period III in *c.* A.D. 200; perhaps the settlement shifted to a different place (Sankalia and Deo, 1955 : 29).

Inscriptions at Nasik refer to the seat of administrative authority at Govardhana in Govardhanāhāra (Senart, 1905–6 : 73). Govardhana, the centre of several guilds such as those of weavers and potters (ibid. : 82–5, 88) has been identified with the large modern village of Govardhana–Gangapur on the right bank of the Godavari, sixteen kilometres from the caves at Nasik. Several villages lying in its vicinity are mentioned, such as Pisājipadaka on the south-western side of Mount Tiraṇhu (Sircar, 1964 : 203), Samalipada to the east of the mount (ibid. : 207–8), Sudisaṇa and Kakhaḍi (ibid.). Except for the remains of Hemadpanti temples, there is little of antiquarian interest at Govardhana, though about 180 metres north-east of the Nasik–Govardhana road is a smooth conical mound 7.6 metres high and 190 metres in circumference (*Maharashtra State Gazetteer, Nasik District*, Bombay, 1975 : 890).

An inscription at the base of an ornate arcade which rises above the door of cave XVIII reads *nāsikakanaṃ dhambhikagāmasa dānam*. It has been suggested that the village of Dhambhika which accumulated the common expense to donate

the entrance to the cave must have belonged to the township of Nasik (Senart, 1905–6 : 92). A *seṭṭhi* of Nasik donated a cell at Bedsa (Burgess and Indraji, 1976, reprint : 27), while one Naganaka of the same town gifted a seat at Kanheri (Burgess, 1883 : 75). A Bharhut inscription records the gift of a pillar by Gorakhiti, wife of Vasuka from Nasik (Lueders, 1912 : no. 799).

Another site in the Godavari basin is that of Nevasa, situated on both banks of the Pravara. Starting with modest structures in the early centuries of the Christian era, the settlement provides evidence for the extensive use of tiles for roofing, brick walls, elaborate foundations and brick-ringed soak-pits in the Sātavāhana period. The site of Ladmod, Nevasa, was occupied from the beginning of the second century B.C. to the third century A.D., after which it was uninhabited until about the fourteenth century A.D. (Sankalia et al., 1960).

An analysis of Early Historical sites in the western Deccan shows that the largest number are located in the Ahmadnagar district, a majority of these being in the Rahuri taluka of the district (Appendix III). The Rahuri taluka forms a part of the extensive alluvial plain of the Godavari basin and is almost half way between the two major settlements of Paithan and Junnar. At present the Manmad–Ahmadnagar State highway via Kopargaon and Rahuri is an important trade artery. It passes through the rich areas famous for sugar and manufacture of *gur*.

Junnar, situated ninety kilometres north-west of Pune and twenty-five kilometres east of the crest of the Sahyadris was to all indications perhaps the largest monastic establishment in the western Deccan under the Sātavāhanas. Various scholars have given different figures for the number of excavations at the site, at the latest attempt having counted as many as 184 caves distributed in the hills encircling the town within a radius of eight kilometres (Jadhav, 1981 : 84). Unlike Kanheri or the other sites, there is no evidence of Mahayana occupation. The inscribed cave at the head of the Nanaghat, linking the hinterland to the coast, is dated to the beginning of the first century B.C. (Dehejia, 1972 : 179). This records among other things gifts such as cows, horses, elephants, villages and money (*kāhāpanas*) donated by the queen Nāyanikā during the Vedic sacrifices conducted by her. Following soon after are the Tulja Lena and the Budh Lena caves, the latter contemporary with the Karle

caitya of 50–70 A.D. The excavation of Lenyadri cǫmmenced around 90–100 A.D. and continued until A.D. 110–50, to which period also belong the caves at Amba/Ambika and Bhima Shankar. The last series of caves to be excavated were probably those at Shivneri (ibid. : 181–2).

Inscriptions at Junnar record the grant of land in the villages of Valāhaka, Seuraka (Burgess and Indraji, 1976, reprint : 48), Sirikaḍaka, Kaḍaka (ibid. : 49), Puvānada (ibid. : 44), Vaḍ-ālikā, Kaṭaputaka (ibid. : 45) and Mahāveja (ibid. : 46) Māṇ-amukaḍa hill mentioned in the last inscription is perhaps an ancient name for Manmodi hill in which the caves were cut. The villages mentioned above in all probability lay in the vicinity of the monastic establishment, Vaḍālikā, and Kaṭa-putaka being identified with Varada and Katur, nine and seven and a half kilometres north and south-south-west of Junnar respectively.

Exploration around Junnar has led to the discovery of several settlement sites. These include Udapur on the left bank of the river Ad, about thirteen kilometres from Junnar. To the south and south-west of Shivneri are the habitation sites of Kusur and Nirgude. Another site near Manikdoha in the ox-bow curve of the river Kukdi has now been submerged by the dam, while Padli and Agar are two promising sites on the right bank of the Kukdi. The orientation of the caves at Junnar differs from each other, each group facing the Early Historical settlement of the region (Jadhav, 1981 : 65–72). Ancient tracks can still be seen around Junnar and two rock-cut cisterns have been found on the road leading to Junnar (ibid. : 60). On both sides of the last milestone for Nanaghat from Junnar, remains of a number of cisterns have been found. On one side is a large platform with ashlar masonry. Near the parapet is a massive jar hewn out of rock which is said to have been used for collecting toll money and on the opposite hill is a small shrine of Gaṇeśa (ibid. : 295).

In the district of Pune, sixty-three kilometres south-west of Junnar is Karle and located in a radius of thirty kilometres around it are another sixty caves. These include the caves at Ambivale, Kondane, Bhaja, Bedsa, Pala, Shelarwadi (Fergus-son and Burgess, 1880 : 168), Induri (*IAR, 1957–58* : 67), Karanjgaon, Kamra (*IAR, 1969–70* : 25), Nadsur, Karsamble (Cousens, 1891 : 1, 11), Nanoli and Bhamchandra (Johns,

1876 : 252–3). Of these, the earliest are those at Nadsur, Bhaja and Kondane, dated to *c.* 70–50 B.C. (Dehejia, 1972 : 153–5), the Karle caitya being placed later in the first century A.D. and following this the caves at Shelarwadi and Ambivale. The dating of the rest of the caves is problematic.

An inscription of Uṣavadāta at Karle gives the name of the settlement as Valūraka and mentions the gift of the village of Karajaka (Burgess and Indraji, 1976, reprint : 33). A record of Gautamīputra Sātakarṇi places the site in Māmālāhāra (Lueders, 1912 : no. 1105). A striking feature of the inscriptions at Karle is the large number of donations made by the inhabitants of Dhenukākaṭa.

To the south of Karle is a group of caves on the river Nira at the head of a short narrow valley at Sirwal and Wai (Fergusson and Burgess, 1880 : 211). Beyond these are another fifty-four caves approachable through the Kumbharlighat and situated at Karad at the junction of the Koyna and the Krishna rivers, while two more lie at Patan, thirty kilometres west-north-west of Karad. The excavation of the caves at Karad has been assigned to a period between A.D. 90 and 150 (Dehejia, 1972 : 183). There also seems to have been a Sātavāhana settlement near the caves and an inscription at Bharhut records the gift of a coping stone by the town (*nigama*) of Karāhakaṭa (Lueders, 1912 : no. 705). Three other inscriptions mention the inhabitants of the town, but do not refer to their occupations (ibid. : nos. 767, 809, 891).

The presence of a large number of caves in the western belt of the districts of Pune and Satara, coterminous to some extent with the ancient Māmālāhāra is justifiable. The Maval region, ideal for agriculture, is endowed with fertile black soil well suited to rice and has heavy and certain rainfall. To add to this is the fact that the region can be easily defended and only the passes into the valley need be guarded. This aspect was again exploited in the medieval period when forts were constructed at strategic points on the hills, e.g. Shivneri fort at Junnar, Narayanagada, fifteen kilometres to the south-east of Junnar; Lohagada and Visapur forts in the vicinity of Bhaja; and Rajamachi, nine kilometres north-east of Bhorghat on the main line of the Sahyadris, close to Kondane. In spite of the hilly terrain, transport poses no major problem, as the gradient to

the caves is gentle and the caves are accessible both by pack animals and by people carrying head-loads.

The upper Krishna valley south of Karad, as far as the confluence of the Krishna and the Panchganga, broadens out into a fertile alluvial plain well-suited to agriculture both on account of soil fertility and adequate rainfall. On the right bank of the Panchganga is Kolhapur and situated in the western part of the town is the locality of Brahmapuri known in 1944 for its rich hoard of bronze objects. These include an exquisite statuette of Poseidon, bronze vessels, a toy cart and animal figurines (Khandalavala, 1960 : 29–75). Later excavation revealed that the site was first occupied in *c.* 200 B.C. The settlement consisted of brick houses with stone foundations. There is evidence for the manufacture of beads and human figurines of terracotta and kaolin and nearly a hundred Sātavāhana coins have been found (Sankalia and Dikshit, 1953).

An extensive site about forty hectares in area lies in the adjacent district of Belgaum. Vadgaon-Madhavpur, a suburb of Belgaum town, first gained prominence in 1945 when a hexagonal pillar inscription of the first century B.C. was found there. The inscription records the performance of a Vedic sacrifice by a brahman of the Kaśyapa *gotra* (Sundara, 1981 : 88). Recent excavation at the site shows that the central area in the southern part of the site is elevated and on circumstantial evidence, two brick structures, one measuring 14 × 22 m and the other apsidal, unearthed here may have been for religious purposes (ibid.). For about 270 metres a 'street' was excavated with terracotta tiles and brick structural remains on both sides. While copper coins with the Ujjain symbol, beads of semi-precious stones and dice were found in large numbers, pottery was meagre (ibid. : 92–3). Can one thereby conclude that the street was used for commercial purposes? Further excavation in the northern part of the site revealed residential buildings and wells. The former consisted of square rooms and oblong halls with a tiled roof and raised on a foundation of pebble bedding overlain with a layer of rammed *murrum*. The binding material used was mud plaster and the walls were plastered with fine lime (ibid. : 94–5). No details are available regarding the antiquities recovered from the site, although the information provided lists beads, terracotta animal and human figurines,

plaques, a copper figure of a seated lion, ivory dice and iron objects (ibid.).

Another site further south is Banavasi, district North Kanara, already familiar as the find spot of an inscription of Vāsiṣṭhīputra Śiva Śrī Puḷumāvi. Gautamīputra Sātakarṇi issued one of his inscriptions from Vaijayanti, identified by some with Banavasi (Senart, 1905–6 : 71; cf. Sircar, 1964 : 198). According to a tradition recorded in the *Mahāvaṃsa* (XII.41) and the *Dīpavaṃsa* (VIII.10), the Buddhist teacher Rakkhita was deputed to Banavasi (capital of Kuntala) in the reign of Aśoka. A Mauryan stupa found at the site would seem to confirm this tradition. Ptolemy refers to the city as Banausi (VII.83). The ancient mound here is enclosed by a brick fortification wall on a rubble foundation surrounded by a deep moat (*IAR, 1970–71* : 29). Exploration at Sannatti in the district of Gulbarga revealed a stupa, sherds of the Rouletted Ware, Sātavāhana tile pieces, beads and bangles (*IAR, 1966–67*). One of the fragmentary Brahmi inscriptions found at the site reads *Vasithiputa Siri Sa (ta) (IAR, 1968–69* : 47).

Before we analyse the settlement pattern that emerges out of this study of Sātavāhana sites, we should briefly survey the location of habitation areas in the regions adjacent to the western Deccan. A fortified site in district Kurnool on the right bank of the Tungabhadra is that of Satanikota, dated between the first century B.C. and the third century A.D. Built of Cuddapah slab, the rampart with a moat all around had a facing of burnt brick and an elaborate gateway complex to the south. As many as 200 beads of glass, terracotta and semi-precious stones were recovered; an important find being that of a coin with the legend *Śrī Sāta Kumāra* (Ghosh, 1981). Of immense importance are sherds of Red Polished Ware incised with Kharoshthi letters found at the site (Sharma, 1983 : 142).

Kondapur in the district of Medak includes several mounds with eight to nine metres of cultural deposit extending over one kilometre. Excavation at the site has revealed religious and domestic buildings built of brick of various sizes laid in mud mortar. The large collection of antiquities recovered from the site included bangles, beads, amulets and pendants in a variety of materials; clay bullae and terracotta human and animal figurines. Of the large number of coins one was a gold coin of

Augustus, a dozen silver and over a hundred coins of copper, potin and lead (Yazdani, 1941 : 171–85).

Dharanikota, district Guntur, encompassing the Buddhist site of Amaravati has been identified with ancient Dhānyakaṭaka (Lueders, 1912 : no. 1271). The earliest structural activity at the site is marked by the construction of a wharf raised on posts at right angles to the navigation channel (*IAR, 1963–64* : 2; *1964–65* : 2). Later instead of a wooden wharf, a brick structure was constructed all along the channel on its inner side and an earthen embankment raised at the back. Sherds of Arretine ware and fragments of handles of Roman amphorae have been found in this phase. Further improvement of the wharf resulted in the construction of a brick revetment with alternate gradients and landings at different levels of the water. With the gradual silting up of the navigational channel, the site was abandoned in the fourth century A.D. (ibid.). The *Periplus* (sec. 51) mentions that merchandise was brought to Ter from regions along the sea coast, Dharanikota presumably being one of them.

Sircar (1976 : 132) cautions against equating Dhānyakaṭaka with Dhenukākaṭa, the latter site identified by Kosambi (1955 : 59) with Deogadh on the opposite curve of hills from Karle. Inhabitants of Dhenukākaṭa are mentioned in several inscriptions at Karle, Kanheri and Shelarwadi. An inscription at Kanheri records the gift of a nun, the daughter of a lay worshipper and inhabitant of Dhenukākaṭa (Burgess, 1883 : 85). Of the fourteen inscriptions at Karle, five are by *yavana* donors (Vats, 1925–6 : nos. 4, 6, 10; Burgess and Indraji, 1976, reprint : nos. 7, 10) and the others by traders, a perfumer, carpenter and a *gahapati* (ibid.).

At Yelleswaram in the Krishna valley, the Sātavāhana settlement is enclosed by a fortification. On the banks of the river are the remains of a bathing ghat with a flight of steps and a huge *maṇḍapa* (Khan, 1963 : 10).

In the Vidarbha region, settlements were located at Paunar, district Wardha (Deo and Dhavalikar, 1968), Pauni on the Wainganga in district Bhandara (Deo and Joshi, 1972), Kaundinyapur, district Amaravati (Dikshit, 1968), Mandhal, district Nagpur (Shastri, 1981) and Bhatkuli, also in district Amaravati (Dhavalikar, 1981). Excavations at Pauni revealed

the remains of a brick stupa with a *pradakṣiṇāpatha* (Deo and Joshi, 1972), while Bhatkuli is said to be the ancient Bhojakaṭa mentioned in Bharhut inscriptions (Lueders, 1912 : nos. 723, 861).

The pattern that emerges from this study indicates a shift from the route connecting the east coast to Bharuch via Ter and Paithan; divergence of traffic to Kalyan; and the proliferation of settlements and monastic establishments around Kalyan as well as in the upper Godavari and the upper Krishna valleys, exploiting the agricultural potential of the region and controlling communication through the passes along the Sahyadris.

The inscriptions of the Sātavāhanas refer to three kinds of settlements—*nagara, nigama* (market town), and *gāma*. The Nasik inscription of Vāsiṣṭhīputra Puḷumāvi speaks of *navanara-svāmi Vāsiṭhīputo*, the term *navanara* being translated as a new city (Sircar, 1964 : 207).

The *Jātakas* tend to keep to this basic division of *nagara-nigama-gāma* though variations like *dvāragāma* (a village in the suburbs of a town) (Bk. VII : no. 408) and *paccantagāma* (frontier village) (Bk. XV : no. 506) are mentioned; similarly distinctions like *nigamagāma* (Bk. IV : no. 323), *paccantanagaram* (Bk. XII : no. 474) and *paccantajanapadam* (frontier district) (Bk. XXI : no. 539). *Rājadhānī* is the capital city (Bk. VII : no. 402). The *Milindapañha* and the *Jātakamālā* of Aryaśūra in no way add to this information.

The *Jātakas* refer to settlements belonging to members of a particular occupation, e.g. a village of 500 carpenters (*vaḍḍhakigāma*) not far from the city, where the carpenters built houses for a wage (Bk. II : no. 156); a village of hunters (*nesadagāma*) near Varanasi (Bk. II : no. 159); and a village of robbers (*coragāma* Bk. XV : no. 503). The only two castes mentioned as living in separate villages are the brahmans (Bk. VII : no. 402) and the *caṇḍālas (tadā Ujjeniyā bahi caṇḍālagāmako hoti*, Bk. XV : no. 498).

Unfortunately, data of this sort is difficult to identify in archaeological records, unless a horizontal excavation were carried out and a systematic record kept of all the antiquities associated with a structure. This would also help in identifying ports of trade and facilities provided for storage, anchorage, etc.

Kauṭalya in his *Arthaśāstra* (II.1.19) rules that the king should populate the countryside by bringing in people from other lands or by shifting the surplus population from his own lands. Villages should consist mainly of sudra (*śūdra*) agriculturists with a minimum population of one hundred and maximum of five hundred families. Starting with a *saṃgrahaṇa* or headquarters in a group of ten villages, he should establish a *kavaṭika* amidst two hundred, a *droṇamukha* amidst four hundred and a *sthānīya* in the middle of eight hundred villages. The *Manusmṛti* favours the appointment of a lord over each village and over ten, twenty, hundred and thousand villages (VII.115). These stipulations tend to suggest the norms rather than the general practice.

Similarly while describing the layout of a city, Kauṭalya (II. 4.6–16) decrees that the royal residence should occupy one-ninth of the city area a little to the north of the centre. The residence of the *purohita* or *ācārya* should be in the north-east, while dealers in perfumes, flowers, makers of toilet articles and ksatriyas (*kṣatriyas*) should live in the eastern quarter. In the south-east should be the store-house for goods and also workmen's quarters, and beyond that in the southern quarter grain-dealers, courtesans and vaisyas (*vaiśyas*) should live. The western quarter should be for workers in wool, yarn, bamboo and leather and for the sudras. In regions near the city wall, quarters for guilds and foreign merchants should be situated.

This orderly segregation of castes within a city is nowhere reflected in Buddhist literature. The *Milindapañha* while describing the *nagara* of Sagala, a *nānāpuṭabhedana* (a centre for all kinds of merchandise) resorts to the stereotype, e.g. with a rampart, watch towers and city gates; having parks, pleasure grounds, woods and lakes; with well-laid-out carriage ways and cross roads; and with shops (Horner's tr. I : 2). Elsewhere it is the city architect who is responsible for planning and building a city (ibid. : 46).

The founding of cities in the *Jātakas*, as elsewhere, is a royal prerogative. *Jātaka* no. 513 (Bk. XVI) states that the king made a settlement on a certain mountain and forming a lake, prepared cultivated fields and bringing a thousand families with much treasure, he founded a village and instituted a system of alms-giving to ascetics. This village grew into the town (*nigama*)

of Cullakammasadamma. In another jātaka (Bk. XXI : no. 537), in order to honour a tree spirit, the king had a vast lake constructed near a banyan tree and founded a village by transporting many families. The *gāma* grew into a *nigama* with eighty thousand shops. In this jātaka the text further states that a courtier was left in charge of the village.

The towns in the *Jātakas* were surrounded by walls and moats, interspersed with gates and watch towers (Bk. XXII : no. 546) while the villages were sometimes protected by bamboo palisades (Bk. II : no. 177). At the city gates were rest houses for travellers (Bk. I : no. 96) and alms halls. A treasurer is said to have built six alms halls (*dānasālā*), one at each of the four city gates, one in the heart of the city and the sixth at the door of his house (Bk. XXI : no. 535). At the time of closing the city gate, the gate keeper cried aloud three times (Bk. III : no. 259). The city gate also seems to have been the centre for a good deal of cultural and commercial activity. In the Visayha jātaka, the Bodhisattva mowed grass, tied it in bundles and took it to the city gate to sell it (Bk. IV : no. 340). Two *caṇḍālas* wanting to show off their prowess at sweeping, one day went to the city gate (Bk. XV : 498). The city also seems to have had streets of specialized workers. In the course of his walks through the city of Varanasi a man came to the ivory workers' street (*danta-kāravīthi*) (Bk. I : no. 72). In the Bhimasena jātaka (Bk. I : no. 80), the Bodhisattva was born a brahman in a *nigamagāma* in the north country and when he grew up, he went to Takkasila for studies. On completion of his studies, he left Takkasila and arrived in the Andhra country in search of practical experience and went to the weavers' quarters.

A comparison between these literary references and archaeological remains shows certain similarities. Fortification walls are known to occur at several sites such as Bharuch, Sopara, Ter and Vadgaon-Madhavpur. In an Amaravati relief, watch towers along fortress walls are depicted. The presence of a street with shops on both sides may be inferred at Vadgaon-Madhavpur.

An inscription at Kanheri refers to the gift of a merchant of Kalyan. 'In the monastery at Kalyan in the Gandharikabhami (name of a ward or a street of Kalyan), a house with two apartments and a dining hall have been built and a perpetual

endowment given for these, also a *nivesaṇam* in the Mukuda-sivayiva (name of a ward of the town). Out of (the rent of) these, two shares are to be spent on the house with two apartments, three shares on the quadrangular hall, ten (shares) are (to be given to the ascetics) in the monastery for clothes and one share to those in the quadrangular hall' (Burgess, 1883 : 81). The arrangement outlined in the inscription appears rather complex and being a solitary example defies all attempts at analysis.

A much more complex problem is the identification and definition of these settlements. Several attempts have been made to define cities on the basis of area or population density and to place them in clear-cut slots marked 'cities' 'towns' and 'hamlets', but these have come in for considerable criticism. It has been remarked that terms like hamlet, village and town are simplistic modes of expression and need not necessarily refer to structurally distinct natural entities, as such attempts to identify hierarchies within urban data may be futile (Crumley, 1976 : 59). Similarly serious objections have also been levelled against the classic Central Place Theory model (Christaller, 1966) on the grounds that it is based on specific economic and demographic relationships between 'urban centres' and their surrounding hinterland characteristic of modern states. A workable definition then is that of the functional centre which may be any spot/place/site/location which serves a function or functions not equally available elsewhere, i.e. that has a hinterland for which it provides a function or functions (Crumley, 1976 : 67).

A concept related to this is that of the functional lattice. It is the spatial expression of relationships (economic, social, religious or administrative) between functional centres and the more complex the system of settlement the more likely it is that the system's functional lattices overlap (ibid. : 68). Craftsmen could live in scattered villages and exchange their produce through joint marketing places or through a state-operated redistribution network. Such a settlement pattern, though clearly workable at a certain level is nevertheless cumbersome and one would expect that with increased cultural complexity there would be a tendency for different functions to converge towards a common intersection (Trigger, 1968 : 72).

Within the framework of the available data the functions of

some centres in the western Deccan may be postulated. Thus Bharuch was a predominantly commercial centre and port defended by a rampart. There is no information regarding its agrarian base, presumably the profits from both sea- and land-trade being substantial enough to support its inhabitants, particularly the mariners and the 'royal fishermen' described by the *Periplus* (sec. 44). This text also states that 'everything that makes for the well-being of the country and of our trade is brought down' to Bharuch from Ujjain (ibid. : 48). In contrast, Sopara was not only a commercial centre but also had administrative (Burgess, 1883 : 76) and religious functions, the latter indicated by the stupa at the site and the place of pilgrimage known as Rāmatīrtha (Senart, 1905–6 : 78–80). Its populace included among others, merchants and jewellers. Similarly Kalyan had specialists like goldsmiths and blacksmiths; its religious functions being evident from the existence of the Ambālikāvihāra at the site; and its commercial importance being stressed by the *Periplus* (sec. 52) which refers to restrictions placed on merchant vessels landing at the site. An important religious centre in the vicinity was that of Kanheri. Inscriptions at the site indicate the existence of villages in its neighbourhood, much of the land being owned by merchants (Lueders, 1912 : no. 1000; Gokhale, 1975 : 21–5). Donations refer to gifts of agricultural fields and money to the monastic establishment at Kanheri.

Further south on the Konkan coast the settlements may be described as ports and commercial centres juxtaposed with religious centres. The unsuitability of south Konkan for agriculture would suggest that these centres were greatly dependent on sea and coastal trade for their subsistence.

East of the Sahyadris, sites such as Maheshwar, Kasrawad and Tripuri combined both religious and commercial functions, these being indicated by the construction of brick stupas at the sites and the presence of coins. Two religious centres further inland were those of Ajanta and Pitalkhora, though neither of these seemed to possess land. In any case, after the first phase of rock-cutting, much of the focus shifted westward to Buddhist establishments along the Ghats.

There were four major religious centres along the Ghats at Nasik, around Junnar, a conglomeration of caves in the vicinity

of Karle and a fourth at Karad. Of these, the first three possessed villages and lands donated to them by lay devotees. Nasik was a commercial centre as well as is evident from the finds of coins including the famous Jogalthembi hoard from near it. A *seṭṭhi* from Nasik is known to have donated a cell at Bedsa (Burgess and Indraji, 1976 : 27). The seat of administrative authority, however, was at Govardhana (Senart, 1905–6 : 73) which was also the centre of several guilds like those of the weavers and potters (ibid. : 82–5, 88).

The monastic establishment at Junnar—the largest at this time—was situated in the fertile Ghod basin and inscriptions at the site refer to several villages in the vicinity, though there is no information regarding the donors' occupation. The available data would thus indicate that Junnar was primarily a religious centre. The same may perhaps be said of Nanaghat also where Sātavāhana royalty sculpted their portraits, inscribed their first epigraphs and made large donations during Vedic sacrifices, though of late considerable commercial importance has been attributed to the site. The term Nanaghat is said to denote a site where money transactions took place on the grounds that *nana*, the important coin device of the Kuṣāṇas, had come to be used in a general sense for money and this is seen to be corroborated by the existence of a massive jar at the pass, used for collecting toll money till recently and situated opposite a Gaṇeśa shrine (Gokhale, 1984). Similarly two habitation sites at the foot of the ghat, known as Pradhānapada (main centre) and Vaisaghara (traders' site) (ibid.), are seen as indicators of the presence of traders. In the absence of concrete proof that would trace the antiquity of these names to the Sātavāhana period, it would be difficult to attribute any importance to them. There is no denying, however, that Nanaghat would have been used for the transportation of commodities and goods from the ports of Kalyan and Sopara further inland or as an outlet for the fertile tract around Junnar.

While the establishment around Karle was basically religious, the caves at Karad lay close to the *nigama* or market town of Karāhakaṭa mentioned also in the epigraphs at Bharhut (Lueders, 1912 : no. 705). Of the inland centres, Bhogavardhana was perhaps a centre for bead-making, the large number of coins, seals and sealings found at the site indicating its commercial

function (Deo and Gupte, 1974 : 19). Paithan was the capital of Śrī Puḷumāvi on the evidence of Ptolemy (VII.82) while the *Periplus* refers to it as a commercial centre from where merchandise was transported to Bharuch (sec. 51). An inscription at Pitalkhora refers to a perfumer among its inhabitants (Burgess and Indraji, 1976, reprint : 39), while another at Kanheri records an endowment to a vihara at Paithan (Burgess, 1883 : 76). Similarly Ter also carried out religious functions as is evident from the caitya at the site (*AR-ASI, 1902–3* : 197), in addition to being a commercial and cloth-producing centre. The southern settlements such as Kolhapur, Vadgaon-Madhavpur and Banavasi appear to be commercial centres on the basis of the antiquities found, the latter two sites combining religious functions as well. Several fortified settlements have been excavated in the Andhra region. These include the sites of Satanikota, Dharanikota and Yelleswaram. Of these, Dharanikota, encompassing the stupa at Amaravati, carried out religious functions also. Among the other religious centres, mention may be made of Sannatti in district Gulbarga where exploration revealed the base of a stupa (*IAR, 1966–67*); Pauni, district Bhandara, well-known for its brick stupas (Deo and Joshi, 1972) and Kondapur in district Medak. In addition to its religious function, Kondapur may have been a commercial centre as well, as indicated by the finds of a large number of beads, terracotta figurines and clay bullae (Yazdani, 1941).

Thus it is easy to recognize a hierarchy of functions in the settlement pattern outlined above. At the bottom of the scale are the large number of sites yielding sherds, perhaps representing agricultural settlements. Next come the single-function sites such as the commercial centres, e.g., the ports of south Konkan and so on till at the top of the scale are settlements like Sopara and Paithan which combined a multiplicity of functions thereby implying the presence of an increasing number of people in roles other than that of self-sufficient agriculturists. Inscriptions provide ample evidence of the rural hinterland of large religious establishments such as Junnar and Kanheri, though similar evidence is not forthcoming for other centres. An epigraph at Nasik reading *nāsikakaṇaṃ dhambhikagāmasa dānam* (Senart, 1905–6 : 92) perhaps indicates the role of the *gāma* in providing for the urban centre of Nasik. Similarly a *negama* from Kalyan is known

to possess land in a *gāma* (Lueders, 1912 : no. 1000).

A point that needs to be emphasized is that the functions attributed to the different centres were by no means uniformly existent over the entire span of the site. It is the absence of firm dates for each of these sites that has resulted in ironing out peaks of developmental activity or periods of retrogression in the history of the site. Equally probable is the argument that as the system of settlement became more complex, existing centres took on additional functions. Thus it would be naïve to state that Paithan was the capital of the Sātavāhanas during the entire period of their rule. This is quite clear from the Nasik inscription Gautamīputra Sātakarṇi issued from the victory camp describing him as *Benākaṭakasvāmi* (Senart, 1905–6 : 71) and another inscription from the same site of Vāsiṣṭhīputra Puḷumāvi referring to the ruler as *navanarasvāmi* (ibid. : 65). A majority of the epigraphs of the early Sātavāhanas are addressed to officers stationed at Govardhana and it is likely that Paithan became the capital only towards the latter part of Sātavāhana rule. An analogy to this observation may be seen in medieval European history where 'capitals' as such were largely the result of state formation processes. Prior to this the administration of most of the multitude of post-Roman territories was organized from the particular royal estate at which the king or chief happened to be (Hodges, 1982 : 118).

It has been contended that peripatetic kingship was a means of efficiently exploiting the resources of an ecologically varied territory. Equally it may be the product of a community in which there is a comparatively moderate degree of social stratification requiring kingship to be integrally involved with its people at village level (ibid.).

Early Historical archaeology has been far from successful so far in tracing the step-by-step transformation of largely self-sufficient village settlements into urban centres. Similarly no single causative factor could have been responsible for change. Considerable emphasis has hitherto been placed on the introduction of iron resulting in an increase in agricultural production leading to the availability of a surplus. As surplus was not a technical but a social product, 'the institutions created the surplus, which is not "there" the moment it is technically possible but only after it has been institutionalized through

taxes, trade and other means' (Hauser and Schnore, 1965 : 270). The non-agricultural aspect is dominant in the procurement and therefore in the production of surplus (Ghosh, 1973 : 21).

Another important factor is the addition to an extant centre of a single function which may have proved a sufficient 'kick' to begin the shift from self-sufficiency to symbiosis (Crumley, 1976 : 67). A deterrent to such an analysis of Mauryan settlements in the western Deccan is the absence of well-dated sites as both the NBPW[4] and the presence of punch-marked coins are but flimsy deciders of time-brackets. There are however definite indications of a religious centre at Banavasi as the stupa has been dated to the Mauryan period and the Aśokan edict at Sopara perhaps indicates the presence of a port. In the post-Mauryan, pre-Sātavāhana period there is increasing evidence for the existence of market centres. Sites like Maheshwar, Tripuri and Ter are known to have issued their own coinage. Elsewhere at Brahmapuri, Nevasa, Pauni and Bhokardan, uninscribed cast copper coins were in circulation. It is perhaps the integration of these markets with other aspects of the economy that resulted in the overlap of functional lattices, a definite indicator of a complex system of settlement.

Archaeological data certainly indicate that the number of sites increased in the western Deccan during the Sātavāhana period. They are known to be extensive (Appendix III), and the nature of construction radically changes from the preceding period. As compared with structures of mud with wooden posts and floors made of fine clay and lime, Sātavāhana houses were built of bricks laid in clay mortar over a planned foundation of pebbles set in black sticky clay. The floors were made of rammed clay and the roof, supported by wooden posts, was covered with tiles which could be interlocked with the help of channels and ridges on their lower surface and fixed on to rafters below with the insertion of nails through the perforations on the tiles. This seems to have been the general pattern at several sites such as Nasik, Nevasa, Karad, Paithan, Ter and Bhokardan (Deo and Gupte, 1974 : 211). We have already referred to fortifications at sites like Bharuch, Sopara and Ter and to the efflorescence in rock-cut architecture.

[4] At Prakash NBPW has been dated right up to the first century B.C. (Thapar, 1964–5 : 75).

It is doubtful if a single autonomous causative factor will ever be identified in the nexus of social, economic and political transformations which resulted in the emergence of urban forms but the role of religion does seem in a sense to command a sort of priority. Whatever structural changes were introduced in social organization, they needed to be validated by some instrument of authority if they were to achieve institutionalized permanence. This does not imply that religion was a primary causative factor but rather that it permeated all activities, all institutional change, and afforded a consensual focus for social life (Wheatley 1971 : 318). This need for validation is best illustrated in the western Deccan where monastic establishments are located in juxtaposition with both agricultural settlements and commercial centres.

The excavation of rock-cut monasteries in the western Deccan appears to coincide with the fluctuating fortunes of the Sātavāhanas and was the result of two distinct phases of activity. The first phase extended from *c.* 100–20 B.C. and was followed by a lull of about seventy years. The second phase commenced *c.* A.D. 50 and continued till the beginning of the third century A.D. (Dehejia, 1972 : 148). Though large donations for these caves were made by lay devotees, it would seem that rock-cutting activity depended to some extent on political stability as well.

One of the earliest caves to be excavated was the two-chamber caitya at Kondivate containing a rock-cut stupa at the circular end. This was followed by the apsidal pillar-less caityas at Nadsur and Pitalkhora (ibid. : 83) and the plan for the typical apsidal caitya seems to have been finalized by the time the Bhaja caitya was excavated. This plan continued to be copied and elaborated upon. The caitya at Bhaja is divided into a nave and side aisles by a row of pillars. The caitya arch is carved of stone and the facade is completely open, though originally it would have been filled in with a wooden screen with a doorway. The vaulted ceiling of the nave still retains its original wooden ribbing. At the far end is the stupa which consists of a simple drum and *aṇḍa*. Roughly contemporary with Bhaja are the caityas at Kondane, Pitalkhora III and XIII and Ajanta X (ibid. : 84). Another early effort is the circular caitya at Tulja Lena, Junnar, which belongs to the first phase, though

the paintings may have been added later. Another significant development in the caitya form is illustrated by caitya IX at Ajanta, the caityas at Nasik, Budh Lena and Aurangabad. The front is now entirely of stone and below the caitya window, a doorway and windows open into the cave. Caitya IX at Ajanta deviates from the general pattern and is rectangular in plan. A further elaboration can be seen at Bedsa where a verandah has been added to the apsidal caitya. This marks the culmination of the first phase of rock-cutting in the western Deccan and also includes viharas of the quadrangular variety at Nasik, Bhaja, Kondane and Pitalkhora.

In the second phase rock cutting extended to several new sites such as Karle, Kanheri, Ambivale, Mahad, Karad, Kuda and Shelarwadi and is more extensive at Nasik and Junnar. At Karle, the caitya follows the apsidal plan with the difference that a stone screen is added to enclose the verandah with a free-standing lion pillar beyond this (Figure 3.1). The pillar

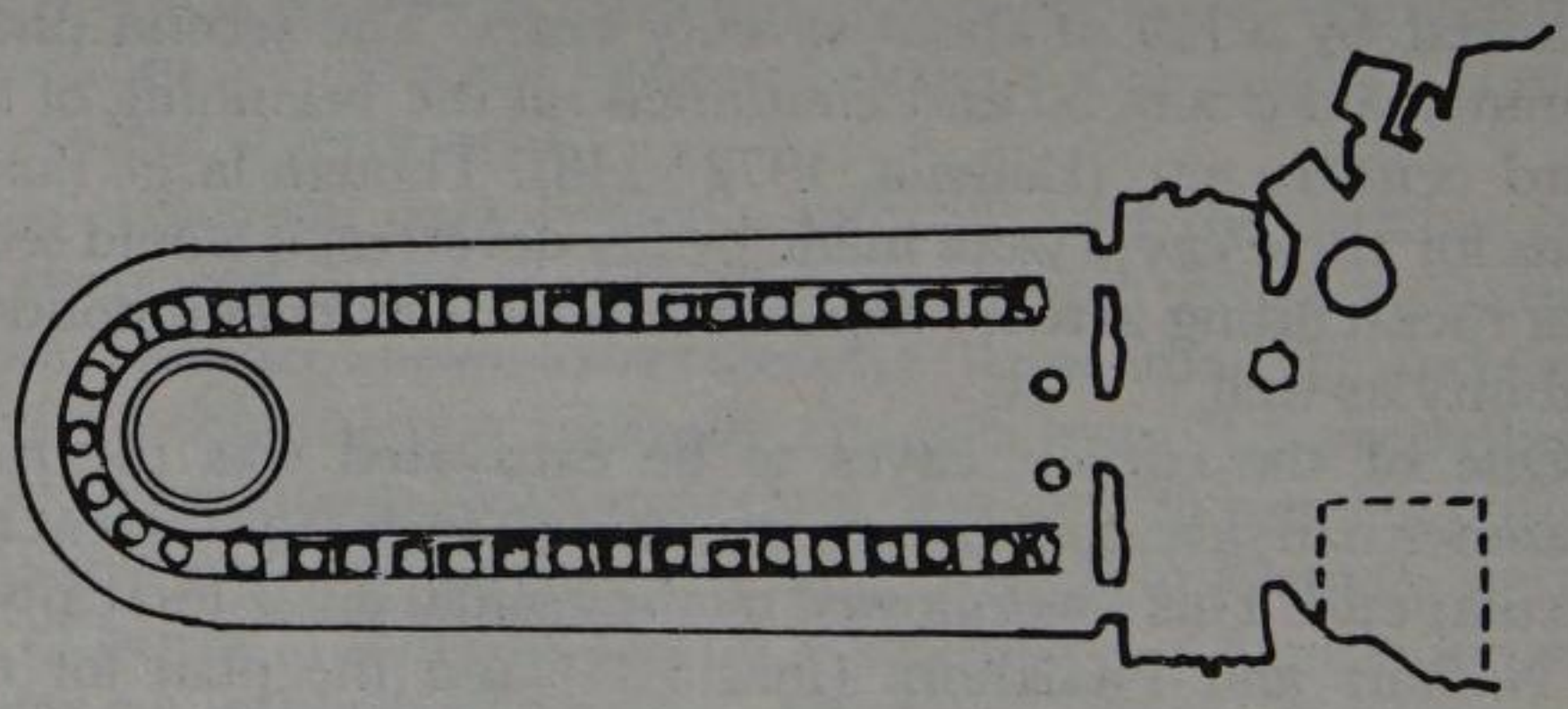


Fig. 3.1. Plan of caitya at Karle (Dehejia, 1972 : 72)

capitals consist of animals with rider couples (Khandalavala, 1956–7 : 11–26). The final stage in the development of the caitya is to be seen at Kanheri. Beyond the stone screen of the verandah is an entire courtyard, enclosed in front by a low wall with guardians at the entrance (Dehejia, 1972 : 91).

A significant change from this general categorization into caitya and vihara can be seen at Nasik caves III and X, both viharas. Inside cave X on the centre of the back wall, flanked on each side by three cells, is what remains of a relief stupa. At some time after the Buddhist occupation, this was recut into the form

of a Bhairava (Trabold, 1970 : 76). This cave also contains a number of inscriptions of Nahapāna. Cave III is an elaborate copy of this and was begun soon after in the reign of Gautamīputra Sātakarṇi, and completed under his successor Puḷumāvi. The combination of the caitya and the vihara is to be seen in several examples of the late Hinayana period and perhaps provides the basis of Mahayana architecture of the fifth century A.D. (Dhavalikar, 1970–1 : 50–61).

The caves at Junnar reveal a number of variations from the general plan of development. In addition to the usual apsidal vaulted caitya, there are the flat-roofed rectangular ones and the circular caitya at Tulja Lena (Jadhav, 1981 : 191). Most of the viharas at Junnar do not conform to any specific type; at Lenyadri they consist of rows of interconnected cells with stone beds in each. The most prolific phase of rock-cutting in Junnar is attested by records belonging to the time of Puḷumāvi (Dehejia, 1969 : 166).

It would seem that the stimulus for the development of urban centres may have been long-distance trade as well as the need to expand agricultural settlements. Owing to their dependence on alms and donations by devotees, monastic complexes had to be situated close to habitation areas. As we shall discuss in the next chapter, royal donations to these would suggest tacit encouragement in this effort. Furthermore, monastic establishments may have been used to forge channels of communication which could later be used to enforce authority. An important role of the monasteries would have been as centres for information and their capacity for information processing, storage and analysis. This need for information would be greatest in societies in the process of social and economic change.

4
AGRICULTURAL EXPANSION AND TRADE MECHANISMS

The Marxian idea that economic factors determine forms of society has been modified by the notion associated with Max Weber that certain social and cultural forms may be necessary before economic growth can take place. The distinction between society and economy may at times be tenuous, for as Marshall (1898) describes it, economics is the study of mankind 'in the ordinary business of life'. As such economy would encompass life as a whole. Others see a dilemma in this position and would rather limit the study of economy to the systems of production, distribution (exchange) and consumption. The way in which these three are organized would, however, be determined by the value system of the society and by the cultural processes. Economic growth is usually based upon institutional changes of which the growing complexity and sophistication of the exchange system is the major index (Belshaw, 1969 : 6). Similarly, social development means an increased social differentiation and an alteration in the quality of social institutions. In other words, greater complexity must be based on an increased division of labour; an expansion of the range and quantity of transactions to which market principles apply and an intensification of those principles; and an increase in exchange liquidity[1] which can be described as the monetization of the economy (ibid. : 52).

It may be useful to deal with the three systems of the economy—production, distribution and consumption—in this chapter and to reserve the study of society for the next. Peasant societies retain a high degree of subsistence production and in this they differ from urban centres which combine market activity with subsistence production. It becomes necessary here to analyse the evidence for private ownership of land and the

[1] Liquidity here refers to the ease with which a commodity can be exchanged (Belshaw, 1969 : 9).

use of slaves or hired labour in agricultural and handicraft production.

Role differentiation and division of labour are characteristic of market systems. One force in market systems is that a seller can dispose of his stock at times when he has a surplus in relation to his immediate consumption requirements, buying it back at times of continuing demand but when his own production is not being harvested. The market acts with a warehouse or storage function; but this is possible only if seasons are reasonably stable so that a poor crop by one individual is counterbalanced by the harvest of another, or if commodities are reasonably durable and some group takes on the function of holding stocks. The last condition is more important in the development of trade and is predicated on role differentiation between the producer and the trader. Many traders operate on a fairly restricted circuit with limited capital and with local goods only. But the network effect of trading is extended by the establishment of other roles based upon modest increases of capital and handling of stocks of more complex origin (ibid. : 55).

The *Jātakas* provide considerable data on the mechanics of the distribution system which is complemented by inscriptional evidence regarding complexities of trading networks. Thus there are references to guilds and different categories of traders and artisans, while foreign works like the *Periplus* provide information on commodities imported into the western Deccan and those in demand in the western world. These transactions would have to be based on some form of monetary exchange and it is this that we shall discuss in the last section of this chapter.

It is best to start with historical factors and local conditions that may have influenced the economic development of the western Deccan and may have contributed to the extension of the power centre from Magadha to the western Deccan after the decline of the Mauryas. The rugged terrain of this region has been described in detail in the first chapter. A result of this topography is that agricultural settlements are confined to river valleys. Another restrictive feature is that the major rivers do not flow in valleys of their own erosion, but occupy fault plains in the rocks, hence, unlike the Gangetic valley, no large expanses are available for agriculture along their banks. The

black soil has a high lime content and is ideal for growing cotton, but it is not of uniform thickness. Coupled with these two restrictive factors is a third—rainfall. Rainfall reduces on the leeward side of the Western Ghats and continues to diminish eastwards, so that the middle reaches of the river valleys lie in an arid zone with less than fifty centimetres precipitation annually (Singh, 1971 : 704). These factors have combined to make the western Deccan an area of overall low agricultural productivitv. To this day, the gross value of output per hectare in Maharashtra is roughly three-fifths of the average for the rest of the country (ibid. : 713).

Once agricultural productivity is seen to be marginal, one has to look for other reasons to explain the importance of the western Deccan and these are to be sought in its strategic location, as a result of which major routes from the south passed through this region. The first century B.C. thus provided ideal conditions for any would be expansionist power to exploit the Mediterranean trade boom and to secure a base for itself in the western Deccan, the highlands providing defensive hideouts for retreat in times of hostility.

Trade can flourish only if the agricultural economy of the region is capable of providing a firm base for it or else if the profit margin is large enough to pay for the purchase of food. In spite of its overall low productivity, the upper basins of the major river valleys of the western Deccan offer fertile tracts for cultivation and it is precisely within these areas that we find the earliest monastic establishments, e.g., Nasik in the Godavari valley and Nadsur and Bhaja in the Bhima valley. Seventy per cent of the arable land is under food crops, the remaining 30 per cent being covered with oilseeds, cotton and other fibre and fodder crops. Jowar, bajra, wheat and rice are the four important food crops, while cereals and pulses are cultivated over a large area. As the demand for cash crops increases, sugarcane gets top priority where irrigation facilities are available, cotton being the next choice (Singh, 1971 : 713).

Sātavāhana inscriptions refer to plantations of *karañja* (timber), *jambu*, mango and coconut trees (Burgess and Indraji, 1976, reprint : 48; Senart, 1905–6; 82–5). The real cause of the development of the west coast was the coconut, of utmost value on account of its wood, fibre, wine and oil. The Konkan is ideal

for the growth of the coconut tree because of the heavy rainfall and the hot climate. It could not have been profitably cleared of its dense forest, let alone settled without the coconut tree and the heavy commodity production based upon its exploitation in full (Kosambi, 1981 : 189). Apart from these, there is no mention of the crops cultivated and primary evidence in this regard comes from archaeological excavations. In the Sātavāhana levels at Nevasa, grains of wheat, barley, rice and millets, sorghum, gram, pea and Indian jejube have been identified (Kajale, 1976–7 : 50–1). Most of these occur at Bhokardan as well (*IAR, 1976–77* : 91), whereas at Ter, the finds are limited to those of wheat, rice, lentils and jejube (Kajale, 1975–6 : 62–3).

The term *hala* in Sātavāhana inscriptions (Senart, 1902–3 : 66) designates a measure of land and also means a cultivated field. This may be taken as evidence for the use of the plough. The terrain of the western Deccan, however, imposes serious limitations and irrigation facilities include canals, wells and tanks. Of these, canal irrigation is common in the western parts, whereas wells are utilized to irrigate small farm holdings all over the region (Singh, 1971 : 715). Wells and tanks seem to have been in use in the Sātavāhana period also. According to Allan, symbols on the obverse of some early Andhra coins from Kolhapur represent the water wheel used for irrigation (1936 : xxxii). The *Gāthāsattasai* corroborates this by mentioning a water-lifting device called *rahaṭṭaghaḍiya* (490), while the Nasik inscription of Mādhariputa speaks of the guild of *odayantrikas* described as makers of water machines (Senart, 1905–6 : no. 15). Uṣavadāta is eulogised as the maker of tanks (*taḍāga*) and wells (*udapāna*) (ibid. : no. 10). An inscription engraved on a detached rock between caves XXI and XXII at Kanheri and dated to the second century A.D. records the construction of a tank (*talāka*) by *seṭṭhi* Punaka of Sopara (Gokhale, 1975 : 21); another construction is recorded in the Myakadoni inscription of Puḷumāvi (Sukthankar, 1917–18 : 153–5). An epigraph from Amaravati of the time of rājan Siri Sivamaka Sada mentions the *pāṇiyagharika* or the superintendent of water houses, possibly for controlling the distribution of water. Overall evidence, however, would seem to suggest private control of irrigation facilities, though in the difficult terrain of the western Deccan, the digging of tanks would necessitate help from either the king or rich landowners.

The *Arthasastra* (II.24.18) mentions four methods of lifting or drawing water and one of them includes the use of a water machine. The Cullavagga (V.16.2) refers to the use of a long pole balanced as a lever, a bullock machine and a wheel and axle. While Kauṭalya recognizes the right of farmers to construct and mortgage private irrigation works, he imposes a fine on a person constructing a drain or a well in another's land or putting to sale or mortgage a charitable water-work.

Private control of irrigation facilities raises the controversial problem of ownership of land. Scholars have expressed differing opinions on the subject, ranging from the 'oriental despotism' of the eighteenth-century writers to the views expressed by modern historians that land could be donated as a commodity for religious purposes, but could not be sold or purchased on a secular basis (Sharma, 1966 : 225). It seems more likely that no uniform set of rules can be formulated for the whole country for a given period. The prevalence of land as a commodity varied with the region and depended on the economic condition of the society.

The *Arthaśāstra* (II.1.10; I.14.3) is, at times, misquoted to suggest that the king had the right to confiscate land or to transfer it from one person to another. A reference to the context makes it clear that this right was limited to newly settled or colonized lands, and as such lands which were originally state property. Besides, the sole objective of the state behind the colonization was to get the lands cultivated and to derive revenue from this. Under these circumstances it had a right to punish defaulters. The *Arthaśāstra* indicates two distinct categories of agricultural revenue; *sītā* or the produce of crown lands : and *bhāga* or one–sixth share of the produce of other lands (Kangle, 1963 : 173). Crown lands were under the supervision of the *sītādhyakṣa*; slaves and labourers in state service were employed to get them cultivated and some were also let out on other terms. On the other hand, there were lands which the *karṣaka* or farmer tilled and there is a clear distinction between the *kṣetrika*, the owner of the field, and the *upavāsa* or the tenant (III.10.8).

Both the *Arthaśāstra* (III.9.15–23) and the *Manusmṛti* (VIII. 262) recognize the right of the individual to his land and lay down elaborate rules to deal with boundary disputes and to the

sale and purchase of property. According to the *Arthaśāstra*:

> Kinsmen, neighbours and creditors, in this order, shall have the right to purchase landed property (III.9.1). Owners shall proclaim a dwelling (as for sale) in front of the house, in the presence of members of forty neighbouring families and a field, a park, an embankment, a tank or a reservoir (as for sale) at the boundaries, in the presence of village elders who are neighbours, according to the extent of the boundary, saying, who is willing to purchase at this price? . . . . What has been thrice proclaimed and not objected to shall be open to purchase. (Kangle tr. III.9.3).

In Pali works, peasant proprietors who cultivated arable land were called *khettapati* or *khettasāmika (Dīghanikāya*. XII.7); boundaries were set up to distinguish plots of land (*Jātakas*, Bk. XIV : no. 484) and land was classed with cattle, etc., as the personal property of the householder.

Sātavāhana inscriptions at Junnar (Burgess and Indraji, 1976, reprint : nos. 9, 13, 14, 15, 17, 18), Nasik (Senart, 1905–6 : 77), Kanheri (Burgess, 1883 : nos. 15, 18) and Mahad (Burgess, 1964, reprint : no. 2) record donations of land by lay devotees, while the Nasik inscription of Uṣavadāta refers to the purchase of a field from a brahman (Senart, 1905–6 : 78–80). Epigraphs at Junnar (Burgess and Indraji, 1976, reprint : nos. 17–18) mention gifts of land situated in different villages and at Kanheri a *kheta* in *gāma* Saphau is given by a merchant of Kalyan (Burgess, 1883 : no. 18). The *Arthaśāstra* (III.10.15) lays down that landowners living in a different place may live on the produce of their fields. The prevalence of 'absentee landlordism', or the cultivation of landed estates by monasteries could only be possible in conditions where labour, like land, had become a commodity. For labourers on land, the *Arthaśāstra* (II.24.28) fixes a wage of one *paṇa* and a quarter per month in addition to food. The same rate also applies to workers in vegetable gardens, orchards and herdsmen. The *Jātakas* too seem to describe a society where labour could be employed for a wage and where slaves were regarded as the property of the owner.

The Kummasapinda jātaka narrates how the Bodhisattva was born in a poor family and made a living by working for wages (*bhatiyā kammam karonto*) with a *seṭṭhi*, doing farm work (Bk. VII : no. 415). Elsewhere also the Bodhisattva is depicted

as living a hard life on a workman's wages; *bhatim katvā kicchena jīvati* (Bk. VIII : no. 421). A man supported his father by working for hire or by ploughing in the fields: *bhatim vā kasim vā katvā* (Bk. X : no. 46). In Sravasti there lived a very poor man, a hired labourer : *bhatikārako* (Bk. I : no. 109) and a country woman who worked for hire : *bhatim kurumānā* (Bk. I : no. 108).

The landowners were not the only class employing men on wages. The monasteries also seem to have employed people to do manual labour and other jobs forbidden to the monks. The *Vinaya Piṭaka* (Mahāvagga. VI.15) narrates the story of the monk Pilindavaccha who was seen supervising the work of levelling the soil by Bimbisāra. The latter offered him 500 *ārāmikas* who settled down with their families in a village near the monastery and began to work for their new masters. The word *ārāmika* is said to be derived from *ārāma* or pleasure house and denoted men responsible for the upkeep of these (Chanana, 1960 : 83).

A second category of the labour force comprised slaves, as mentioned in the *Vinaya Piṭaka* (Mahāvagga. I.47). Buddhaghoṣa's later commentary on the text enumerates three kinds : those born in the master's house; those acquired by purchase; and those captured in war. To these, the *Dīghanikāya* (II.35) adds a fourth : those who give themselves up as slaves, and the *Aṅguttara Nikāya* (III.208) forbids an *upāsaka* to traffic in human beings. The Vidhurapandita jātaka (Bk. XXII : no. 545) mentions four kinds of slaves : born slaves; purchased slaves; those that come of their own will; and those that are driven by fear. The owner of a slave had the right to gift him to another.

The *Manusmṛti* and the *Arthaśāstra* expand these categories to seven and nine respectively : those captured in war; those who serve for their food; those born in the house; those bought and those given; and those enslaved by way of punishment (*Manusmṛti*, VIII.415). Kauṭalya adds two more to this list : those who have either mortgaged or sold themselves and devotes a whole section to rules on slavery (III.13). The *Manusmṛti* (VIII.416) places slaves in the same category as a wife and a son and states that the wealth they earn belongs to their owner. The *Milindapañha* (Horner tr. II : 106) introduces the practice whereby a father could sell his children into slavery when he had too many of them and could not feed them. The *Periplus* (sec. 36) mentions

the import of slaves from Arabia into the subcontinent.

The *Jātakas* are replete with stories of persons born slaves (Bk. I : nos. 39, 125). Jātaka no. 477 (Bk. XIII) describes how the border people raided the countryside and carried off people to make them slaves. Elsewhere (Bk. XXI : no. 537) a *yakṣa* is depicted as bringing hostages to the border country to sell them as slaves. The Durajana jātaka (Bk. I : no. 64) speaks of a *satakītādāsī*, i.e. a slave girl bought for a hundred pieces, while the Losaka jātaka (Bk. I : no. 41) describes how the Bodhisattva urged the king's men to hand over to him a thief they had caught, so that he could keep him as a slave. Slaves were evidently considered personal property. The Nāmasiddhi jātaka (Bk. I : no. 97) tells of a slave girl who was ill-treated by her master and mistress, because she had not given them her wages : *dāsim bhatim adadamānam.*

This survey leads us to the conclusion that land could be privately owned; it could either be cultivated by the farmer himself, or he could employ labour and slaves for the work; and a third alternative was that it could be leased out (*Arthaśāstra*, II.9.1–9). How did one acquire land? The *Manusmṛti* rules that land could be inherited (IX.104–5), purchased (VIII.201) or else it could be obtained as a gift. Furthermore, possession for ten years was sufficient to create ownership, in the absence of a legal title. Whatever property an owner sees enjoyed by others for ten years and though present does not object to it, that property he shall not recover (VIII.147–8). Another method which seems to have been widely used is that of reclaiming arable land by clearing the forest. As all waste and forest land belonged to the state, this means could not have found approval with the authorities. Since it would have been difficult however to check forays into unarable tracts, the state seems to have legalized this method of acquiring agricultural land, in order to claim revenue. The *Manusmṛti* states that according to the sages a field belongs to him who cleared away the timber (IX.44). Kauṭalya instructs the king not to take unarable lands from those who are making them arable (II.1.8–9); instead the king should allot these to tax payers for one generation. On the death of the allottee, waste land being state property, these fields should revert to the state. The practice of reclaiming land is reflected in the Kāma jātaka which narrates the story of a

brahman who dwelt at Sravasti and who cleared the forest on the banks of the Aciravati in order to cultivate the land (Bk. XII : no. 467). Similarly, the *Milindapañha* (Horner tr. II : 222) refers to farmers who make the land arable, thus becoming owners of the land.

Though a person had an inalienable right to his land, the king could claim revenue on account of the protection that he offered. The *Manusmṛti* states that the king is the lord of the earth and as such he obtains half of the ancient hoards and metals found in the ground (VIII.39). The *Arthaśāstra* (II.24) lays down rules for levying revenue and water charges. It is, however, very unlikely that the state maintained a bureaucratic machinery large enough to be able to collect revenue from each landowner. Both the *Manusmṛti* (VII.115) and the *Arthaśāstra* refer to only one officer in charge of villages and it is possible that the entire village formed a single unit for the calculation of revenue (Jha, 1967 : 140). The revenue due from a village was, however, fixed after measurement of the fields and the *Jātakas* refer to officers who measured the land with ropes (Bk. III : no. 276). Once the sum was decided, it was up to the village elder to procure it by whatever means he could from individual cultivators. The *Milindapañha* (Horner tr. I : 206) mentions the *gāmika* or headman in charge of the village. This system did not apply to crown lands where the king was the sole owner.

Kauṭalya refers to the *gopa* and the *sthānika* as revenue officers and assistants of the *samāhartṛ*, but nowhere do they appear to be involved in the actual collection of land revenue. It seems that dues were ordinarily brought by the assessees themselves, but the recalcitrant were dealt with by the *pradeṣṭṛ* (II.35.7). 'Dividing the *janapada* into four divisions, the *samāhartṛ* should cause to be entered into a register, the number of villages, classifying them as *jyeṣṭha-madhyama-kaniṣṭha* (recording) this is exempt from taxes, this provides soldiers, this much is (the revenue) in grain, cattle, cash, forest produce, labour and produce in place of tax' (II.35.1). The *gopa* was in charge of five to ten villages and kept a detailed record of the size of boundaries, forests, roads, grants and exemptions (II.35.3).

A study of Sātavāhana inscriptions shows that the king often donated the revenue of a village to a monastery or a brahman (Burgess, 1883 : 60 f.) and this could have been feasible only in

circumstances where the revenue was collected for the village as a whole. The village again figures as a separate entity in the list of donors and an ornate arcade in cave XVIII at Nasik is recorded as the gift of the village of Dhambhika (Senart, 1905–6 : 92).

At times inscriptions record donations of fields situated in different villages (Burgess and Indraji, 1976, reprint : nos. 9, 13, 14, 15, 17, 18) and at times partially owned by the donor as in the case of the *ādhapaṇkhetiya* (Burgess, 1883 : no. 15). This situation may have arisen out of certain inheritance laws which decree that he who has no son may make an appointed daughter (*putrikā*) his heir with her son inheriting his maternal grandfather's property (*Manusmṛti*, IX.127); or else if an appointed daughter died by chance without leaving an heir, her husband could take the estate (ibid., IX.135). Similarly the mother's property could be equally divided between uterine sisters and brothers (ibid., IX.192).

No Sātavāhana record specifies the amount of revenue claimed by the state, though Gautamīputra Sātakarṇi is referred to as *dharmopajitakaraviniyogakarasa*, i.e., one who never levied taxes but in conformity with *dharma* (Senart, 1905–6 : no. 8). The Karle inscription of Puḷumāvi records the gift of a village free from all taxes—*sakarukaro sadeyameya* (Senart, 1902–3 : 71). Ghoshal considers this interpretation doubtful and insists that there is no mention of a regular tax levied upon village lands (1973 : 44). There seems to be no justification for this view and it is apparent that the donation of villages makes over not only revenue and administrative rights, but also economic functions as, for instance, the manufacture of salt. Immunities (*bhikkhuhala parihāra*) mentioned in the Nasik inscriptions of Gautamīputra Sātakarṇi (Senart, 1905–6 : nos. 4, 5) and Vāsiṣṭhīputra Puḷumāvi (ibid., : no. 3) include *apāvesa* (immunity against entry by the king's soldiers for imposing any sort of fees), *anomasa* (royal officers were prohibited from taking possession of anything belonging to the village), *alonakhādaka* (immunity from being dug for salt) and *araṭha savinayika* (exemption from the police and magistrate of the district). The first—*apāvesa*—has been taken to mean that either village folk had to pay some contribution of money or supplies to soldiers when they halted or passed through villages, or that the soldiers

were connected with the collection of revenue (Jha, 1967 : 33).

In the *Jātakas* also, kings are described as transferring revenue to the donees. In the Avariya jātaka, the king donated a village whose revenue was a hundred thousand pieces (Bk.VI : no. 376). Elsewhere too (Bk. III : no. 289; XXII, no. 546), the king is shown expressing his pleasure by granting to a subject the revenue from a village. This was calculated on the basis of a survey of the fields conducted by the king's officers (Bk. XII : no. 467). At times the revenue was paid in kind and jātaka no. 276 (Bk. III) describes the Master of Granaries sitting at the door of the granary 'causing the rice of the king's tax to be measured.'

Later Vedic literature refers to donations of both land and villages (Sircar, 1979 : 14), though among the earlier epigraphs recording such donations are those of the Sātavāhanas. The Nanaghat inscription of Nāyanikā mentions the gift of thirteen villages as *dakṣiṇā* during the performance of Vedic sacrifices (Burgess, 1883 : 60f.). Gautamīputra Sātakarṇi conferred a field measuring 200 *nivartanas*[2] in the village of western Kakhaḍī, previously enjoyed by Uṣavadāta, to the *bhikkhus* residing on the Triraśmi hill and grants immunities to them (Senart, 1905–6 : no. 4). In a subsequent epigraph, the king exchanges this field for another measuring 100 *nivartanas* from the *rājakam khetam* as the former was neither tilled nor inhabited (ibid. : no. 5).

Uṣavadāta seems to have been equally generous. He donated sixteen villages to the gods and the brahmans. He also bought for 4,000 *kāhāpanas* the field which Aśvibhuti, the brahman, had got from his father. From this field, food was to be procured, without distinction, for all dwelling in the caves at Nasik. Another 32,000 coconut trees were given by him at the village Nānaṃgola to the congregation of Carakas at Pīṇḍītakāvaḍa, Govardhana, Suvarṇamukha and Rāmatīrtha in Sopara (Senart, 1905–6 : 78–80). A second inscription at Nasik records the gift of 8,000 coconut trees at the village of Chikhalapadra in Kāpurāhāra (ibid. : 82–5), while an inscription at Karle records the gift of the village of Karajaka to the Sangha of monks

[2] Baudhāyana suggests that a holding of 6 *nivartanas* is sufficient for a peasant family (Sharma, 1966 : 62). R. S. Sharma regards one *nivartana* as equal to 3/4 hectare (ibid. : 73), while Niyogi equates it to approximately one hectare (1962 : 97).

residing in the *lena* (Burgess and Indraji, 1976, reprint : 33).

Another king known to have made donations was Vāsiṣṭhīputra Puḷumāvi who granted the *gāma* of Pisajipadaka for the embellishment of the cave given by Gotami Balaśrī to the Bhadāvanīyas (Senart, 1905–6 : no. 2). An epigraph engraved in continuation of this inscription records that the village of Sudisana was taken back by the king and in its place the *gāma* of Sāmalipada was granted together with all immunities (ibid. : no. 3). These villages are, however, different from those mentioned in the earlier record. In contrast to these royal records, an inscription at Karle mentions the gift of a *gāma* by Mahārathī Somadeva to the Valūraka Sangha (ibid. : no. 85).

Thus the Sātavāhanas initiated the practice of donating villages as early as the first century B.C. It is understandable that this was the prerogative of members of the royal family only, yet there is a singular absence of land grants by lay devotees at this time. It is not possible to identify the villages mentioned in the epigraphs, but as six of the ten inscriptions are at Nasik, most of these villages may have been located in its vicinity. Nasik occupied a strategic position in the fertile upper Godavari valley and formed a part of the Govardhanāhāra, the seat of administrative authority being Govardhana (Senart, 1905–6: 82–5, 88).

Nasik may have witnessed the first attempts by the Sātavāhanas to exploit an agricultural base in the western Deccan. The grants of villages to monasteries and brahmans may be seen against the backdrop of the expanding rural economy at this time and the need of the state to monitor new settlements and their development. Religious institutions—of which monasteries were the most developed—were amply suited to the consolidation and integration of agricultural settlements, on account of their ability to forge channels of communication. These channels could not only be used to popularize improved methods of agriculture and cropping patterns, but also to reinforce the authority of the state. It was perhaps for this purpose of supervising and maintaining control that the Sātavāhanas gifted villages to the Sangha. As corroborative evidence a Nasik inscription of Gautamīputra Sātakarṇi may be cited (Senart, 1905–6 : no. 5). This offers to the *bhikkhus* 100 *nivartanas* from the *rājakam khetam* in exchange for a field in

Kakhaḍī village, as the field was neither tilled nor the village inhabited.

These early attempts by the state to use the agricultural potential of the western Deccan led to agricultural developments in other fertile tracts of the region, i.e. the Ulhas basin on the west coast and the upper Bhima and Krishna valleys. Examples from ancient societies show that there was a close connection between landed wealth and commercial capital and it was the possession of the former that made large-scale investment in trade and money-lending possible (Raschke, 1978 : 645). From the first century A.D. onwards, there are increasing numbers of inscriptions recording donations of land by lay devotees and later on by the *bhikkhus* as well. The first century A.D. was obviously an era of prosperity for the Sātavāhanas, principally the reign of Gautamīputra Sātakarṇi. This was also the period when the second phase of rock-cutting commenced after a lull of seventy years (Dehejia, 1972 : 148).

Interestingly, the majority of inscriptions recording donations of land are at Junnar. Situated at the head of the Nanaghat, Junnar lies in a broad flat valley on the right bank of the Kukdi, a tributary of the Ghod. Investment in land seems therefore to have been a natural corollary. Fifteen *nivartanas* of land in Puvanada *gāma* were gifted by Palapa to the Aparājita sect (Burgess and Indraji, 1976, reprint : 44). Another inscription mentions twenty *nivartanas* in Vaḍāḷikā *gāma* and nine *nivartanas* in Kaṭaputaka *gāma* donated by Āḍuthūma, the Śaka (ibid. : 45). In Mahāveja *gāma*, twenty-six *nivartanas* were given for planting *jambu* trees and three *nivartanas* at the foot of the hill to the Sidhagaṇa of the Aparājitas. The inscription at this point is damaged and it is not known to whom the remaining two *nivartanas* of land were donated (ibid. : 46). Another fragmentary record mentions two *nivartanas* of mango trees (ibid. : 47). In Valāhaka *gāma* twelve *nivartanas* were given for planting *karañja* (timber) trees, while some land was donated in Seuraka *gāma* (ibid. : 48); in Sirikaḍaka, four *nivartanas* were given, in Kaḍaka *gāma* twelve, and in addition another eight were gifted for a *jambu* plantation (ibid. : 48).

Elsewhere the donation of land is less frequent. An inscription in cave VIII at Nasik dated to A.D. 100 (Dehejia, 1972 : 160) mentions that the cave was a gift of Mugūdāsa of the lay community of Cetikas. To that cave Dhamanandin gave a field

(*kheta*) in western Kaṇhahini and the income from the field was to provide clothes for the monks living in the cave (Senart, 1905–6 : 77). To the later Mahayana period belong inscriptions 11 and 12 at Kuda, which record the gift of the Chendina field for expenses for lamps. The donor surprisingly is a Śākya *bhikṣu* by the name of Sanghadeva (Burgess and Indraji, 1976, reprint : 11).

At Kanheri, a majority of the donations are in the form of perpetual endowments of money (*akhayanivi*) ranging from 200 to 1600 *kāhāpanas* (Burgess, 1883 : nos. 17, 21, 22, 26, 27, 28) and land grants are comparatively few. A *negama* of Kalyan is known to have made a perpetual endowment of a *kheta* in the village of Saphau. Out of the revenue from land, money was to be given to monks residing in the cave (ibid. : no. 18). Another *negama* from the same place gifted a *bigabha* house and made an endowment of a house (*nivesaṇa*) in the Mukudasivayiva (ibid. : no. 16). A complex financial transaction seems to be recorded in inscription no. 15 where a *kheta* in village Magalathāna of an *ādhapaṇakhetiya* (part-owner) was donated for the benefit of the community and out of the revenue, money was to be provided for monks' clothing.

There seems to have been an elaborate procedure for recording land grants at this time. The donations were made verbally by the king (Senart, 1905–6 : nos, 3, 4, 5) or proclaimed in a *nigamasabhā* (ibid. : 82–5); these were then written down on a surface of either copper or cloth by an officer such as the *amāca* (*amātya*) (ibid. : no. 4), *mahāsenāpati* (ibid. : no. 3) or a door keeper (ibid. : no. 5) and delivered to the donees. It is this delivery that is recorded in the cave inscriptions. Some epigraphs also mention a 'keeper of records' who must have been in charge of the documents (Senart, 1902–3 : 69).

On the surface, one would attribute attainment of religious merit as the motive for these grants from merchants and lay disciples, though the large amount of money flowing into monasteries would question such a claim. We have already referred to religion as an instrument of authority which validated social change and provided institutional foci capable of adapting to the pressures of social differentiation as well as affording sanction for the requisite socio-political and administrative innovations (Wheatley, 1971 : 321). In so far as the institutionalization of a redistributive mode of economic integ-

ration was concerned, they provided authority for the validation of the new social configuration. At the same time they afforded symbolic statements about the nature of society, and so doing, defined the status relationships of its component parts (ibid.).

Another significant factor is that trade was important for the monastic economies also and that monetized exchange did take place. Monasteries had to purchase the cloth that they needed. It also seems likely that cash transactions were required for the purchase of raw materials for the repair of buildings, and for labour. The cash income that the monastery needed for its expenses was derived from the sale of produce from monastic estates and from investments like money deposited in guilds which brought in a regular income in interest (Gunawardana, 1978 : 321).

The Nasik inscription of Nahapāna (Senart, 1905–6 : 83) and numerous passages at Kanheri (Burgess, 1883 : nos. 15, 18, 21, 28) allude to *kuśaṇamūla*[3] (expenses for minor necessities) being given to monks during the rainy season. This practice was against Buddhist tenets. Inscriptions at Kanheri speak of money endowments made by ascetics (*pavajita*) and nuns (*pavaitikā*) (Burgess, 1883 : nos. 17, 21, 28) as well as gifts of caves and cisterns (Lueders, 1912 : nos. 1006, 1014, 1016, 1020). Elsewhere, for example as at Kuda (Burgess and Indraji, 1976, reprint : nos. 4, 5, 8), Karle (ibid. : nos. 3, 12, 15, 18, 22), Ajanta (ibid. : nos. 16, 21, 23) and Nasik (Senart, 1905–6 : no.7) such donations include images, *vedikā* (railing) and cisterns. These inscriptions are good indicators of conditions that develop in the later Mahayana period when *bhikkhus* are known to have made donations of land, e.g., the Kuda inscription recording the grant of the *kheta* of Chendina by the Śākya *bhikṣu* Sanghadeva (Burgess and Indraji, 1976, reprint : nos. 11, 12).

One explanation for this could be that the monks and nuns continued to retain their worldly possessions even after joining the Sangha. The Devadhanna jātaka narrates the story of *Sāvathivāsī kir'eko kuṭumbiko* who joined the Sangha.

> When he was joining, he caused to be built for himself a chamber to live in, a room for fire and a store-room; and not until he had stocked

[3] This has been read as *kuśalamūla* by Mirashi and others, i.e. accumulation of merit by offering clothes, food, etc. (Gokhale, 1983 : 225–7).

his store-room with ghee, rice and the like did he finally join. Even after he had become a monk, he used to send for his servants and make them cook whatever he liked to eat and dwelt aloof on the outskirts of the monastery (Bk. I : no. 6).

At the same time, the *Jātakas* denounce *bhikkhus* indulging in trade and other occupations and amassing wealth. Jataka no. 179 (Bk. II) speaks of a large number of *bhikkhus* who lived by being physicians, runners, doing errands on foot or by exchanging alms for alms (giving a share of alms on one day and receiving the like the next day, to save the trouble of seeking alms daily); another tells of a *bhikkhu* who had his mother to support (Bk. II : no. 164). Some monks begged materials for houses for themselves from all and were forever eating (Bk. III : no. 253). A monk used to plant vegetables and herbs in a corner of the park and by selling these to market gardeners, he amassed great wealth (Bk. XV : no. 505). 'The Elder Ananda once received a present of a thousand robes. The king on hearing of this thought; the Supreme Buddha allows only three robes. Ananda is doing a little trade in cloth, I suppose' (Bk. II : no. 157). Kauṭalya goes a step further and rules that the *bhikṣukī* or *parivrājikā* should be used for spying in the houses of high officers, where she finds easy access because of the honour shown to her in the palace (I.12.1–5). Heretical sects could also be used for the purpose.

The *Vinaya Piṭaka* (Cullavagga. XII.1.1) states that the use of gold and silver was not allowed to the Sakyaputtiya *samanas*. They were neither allowed to accept it nor to take charge of it. About a hundred years after the death of the Buddha, the monks of Vaisali had begun to accept and even to solicit cash gifts. This caused a scandal among other monks who convened a Council at Vaisali and condemned the new usage, stating that monks were to accept nothing except food or small articles for immediate personal use.

The need to resolve this dichotomy between theory and practice had, by the time of Buddhaghoṣa, attracted the attention of commentators on the Vinaya. The statements of Buddhaghoṣa reveal a liberal attitude in his approach to the problem : it behoves the *bhikkhusangha* not to administer, accept or consent to the acceptance of any immovable property like a field, land-holding, irrigation reservoir or a canal. But it is

permissible to accept 'allowable' articles from the proceeds of such property if they be administered by a *kappiyakāraka*—a layman (*Samantapāsādikā* Vol. VI : 1238).

Apart from these theoretical reasons there were other, equally important, practical considerations which made it essential for the Sangha to employ a body of regular officials for the administration of monasteries. The monasteries' possessions ranged from land and irrigation works to salterns and cattle. Some of the land grants were quite extensive and several of them were situated at considerable distances from the monasteries to which they were granted (Gunawardana, 1978 : 96). The practice of employing laymen in the monastic administration is mentioned in the later sections of the *Vinaya Piṭaka*, e.g. *ārāmikas*. Similarly, an incidental reference to *kappiyakārakas* is found in the Suttavibhaṅga where it is stated that monks should not make purchases by themselves but should have the transactions conducted through *kappiyakārakas (Samantapāsādikā* : 698–9).

So far we have dealt with the data for agricultural production and argued for the existence of an agricultural base in the western Deccan which could be used to diversify into trading ventures. The other aspect of production is the manufacture of handicrafts. The mention by Pāṇini of *grāmaśilpin* (VI. 2.62) and *grāmatakṣa* (V.4.95), and Patañjali's enumeration of five categories of village craftsmen (I.1.1.48) has been erroneously taken to suggest the prevalence of the *jajmāni* system and the self-sufficiency of the Indian village. It is not necessary here to enter into the controversy regarding the views of Marx (1965 : 72) either on the Asiatic mode of production or the union of agriculture and industry.

The village was neither self-sufficient nor self-contained. Unfortunately no detailed records exist for this period and it is difficult to interpret information on the mechanism of trade from inscriptions recording donations. Considerable reliance has, therefore, to be placed on literary sources.

A study of the *Arthaśāstra* would reveal what Polanyi would describe as 'administered trade'. Much of the trade was under the control of the state, supervised by the *paṇyādhyakṣa*. It was he who fixed the prices of various commodities (IV.2.36) and allowed a certain percentage of profit to the traders. Kauṭalya decrees that

state goods called *rājapanya* may be *svabhūmija* (indigenously produced) or *parabhūmija*, i.e. produced in foreign lands and imported along a water-route or a land-route (II.35.12). Indigenous goods belonging to the state may be sold in one place, i.e. the capital; foreign goods are to be sold in different centres. State goods are to be sold by state servants, but in this the aid of foreign traders may also be sought' (II.16.14–16).

Besides the state machinery, there were traders with caravans who were afforded protection when they stayed in villages (*Arthaśāstra*, IV.13.7–12). The sale of goods at their place of production was banned and a *śulka* or duty was collected at the city gates (II.16.18–24). Similarly, traders had to pay duty at ports as well and when travelling by the king's ships had to pay hire charges for the voyage (II.28.4). Kauṭalya praises frontier officers for maintaining trade routes and bemoans profiteering by traders who co-operated with each other in order to raise or lower prices, making substantial profits (VIII.4.35).

A specialized political authority implies control and co-ordination of external exchange relations, for a political authority must have the ability to mobilize resources to support its claim to power. Substantial sources of revenue are the customs and other levies collected along political boundaries. A parallel situation prevailed in the medieval period at the time of early European contact with India. In-coming vessels, whether from Europe, other Asian countries or from other political entities on the Indian subcontinent established their social status by the donation of a prestatory gift to the ruler or his representative, after which negotiations could begin. Prices for whole cargoes and categories of goods were fixed and embodied in treaties or contracts and only those goods acceptable to the administration could be imported or exported. Once the terms were settled, foreign merchants made over their cargoes to local middlemen who then transported the goods to market places. Foreign merchants were sequestered in specific quarters and were not allowed to participate in local market transactions (Belshaw, 1969 : 91).

The *Jātakas* describe an economy which was only marginally under state control, and had a complex mechanism of trade, with commercial transactions at different levels governed to a great extent by the nature of the commodity handled. Thus, for

articles of royal consumption it was the king who decided the price. The Taṇḍulanāli jātaka (Bk. I : no. 5) narrates the story of the Bodhisattva who was a valuer (*agghakāraka*) of the king of Varanasi. He used to value horses, elephants, jewels and gold and paid to the owners of the goods the proper price as he had fixed it. Two other jātakas (Bk. II : no. 158; Bk. III : no. 254) refer to horse dealers of the north country (*uttarāpathakā assavānijā*) who used to transport horses to Varanasi for sale. Commodities for the consumption of city dwellers were transported and traded by merchants in caravans. The Bodhisattva was born in a *satthavāhakula* in Varanasi and used to journey to the east and to the west with 500 carts driven by oxen. The roads were rough, wares were bartered and haggling over prices was difficult work (Bk. I : no. 1). To guide caravans across the desert, merchants relied on the desert pilot (*thalaniyāmaka*) who was well versed in knowledge of the stars (Bk. I : no. 2). Similarly merchants had to rely on guides through the forests as well. Once the Bodhisattva was born into the family of a forester. When he grew up, he became the leader of a band of five hundred foresters and lived in a village at the entrance to the forest and used to hire himself out to guide men through it (Bk. III : no. 265).

In the *Amarakośa* (II.6.42; III.9.78) a *sārthavāha* is described as the leader of merchants who invested an equal amount of capital and carried on trade with outside markets travelling in a caravan.

There are several ways described in the *Jātakas* by which merchants could purchase or obtain goods. When a ship arrived in a port, merchants converged there to buy the goods and often had to pay money in advance to secure a share in the cargo (Bk. I : no. 4). Alternatively a merchant could procure goods by mutual agreement with another living along the border. Once the Bodhisattva was a very wealthy merchant (*seṭṭhi*) in Varanasi and had as a correspondent a border merchant whom he had never seen (*paccantavāsiko seṭṭhi adiṭṭasahāya*). There came a time when this merchant loaded 500 carts with local produce and gave orders to the men in charge to go to the Bodhisattva and barter the wares in his shop for their value and bring back goods received in exchange (Bk. I : no. 90).

A third way of procuring goods was by directly approaching

the producer. In Varanasi, once the Bodhisattva gained his living as a trader (*vaṇijjāya jīvikam kappeti*). In those days in a border village in Kasi there dwelt a number of carpenters. The Bodhisattva reached the village by way of trade (Bk. I : no. 44). Similarly, certain traders (*vāṇijā*) of Varanasi made a journey to Ujjain for trade (Bk. II : no. 243).

Just as there were land-traders, there was another category of merchants called sea-traders who earned a living by *jalapathakammikena* (Bk. I : no. 4; Bk. X : nos. 439, 442; Bk. XI : no. 463; Bk. XVI : no. 518). Pāṇini states that merchants were known as *dvināvadhana* (one having two boats) or *pañcanāvapriya* (one sailing with five ships) (Agrawala, 1953 : 155). An inscription at Kanheri records the gift of the *sagarapaloganas* interpreted as a community of traders by sea (Burgess, 1883 : no. 23). In the Baveru jātaka (Bk. IV : no. 339) the merchants (*vāṇijā*) of Varanasi brought a crow and a peacock in two separate voyages to the kingdom of Baveru, where they sold the former for a hundred pieces and the latter for a thousand. A prince decided to make money and to carry on trade. Having got together his merchandise, he put it on board a ship with some merchants bound for Suvarṇabhūmi (Bk. XXI : no. 539).

The *Periplus* provides further evidence of sea trade by Indian merchants and while describing the ports of Africa and those at the entrance to the Red Sea, states that ships were fitted out from places across the sea, from Ariake and Barygaza, bringing to these market towns products like wheat, rice, clarified butter, sesame oil, cotton cloth, girdles and honey from the reed called *sacchari*. 'And some traders sail direct to these marts; others exchange their goods while sailing along the coast. The country is not ruled (by one chief), but each mart is under its own chief' (Huntingford, 1980 : sec. 14). An inscription found in the temple of Pan at Berenike informs us that there was an Indian traveller named Subahu who sailed between India and Alexandria (Moti Chandra, 1977 : 120). Sea trade was by no means oriented only to the west; there is evidence of contact, possibly commercial, between central India and Sri Lanka as well. In Sri Lanka, two inscriptions in the early Brahmi script have been found at Andiyagala on the northern bank of the Modaragam Aru. One of them records the construction of a flight of steps by a person who describes himself as 'the mariner of Bhojakaṭaka',

the site having been identified with Bhatkuli. Since the place where the Modaragam Aru flows into the Indian Ocean is in the coastal area of north-western Sri Lanka known for its pearl banks, it is likely that the nature of the mariner's visit may have been commercial (Paranavitane, 1970 : 8).

Retail outlets for goods acquired by these land and sea traders were provided by shops in urban centres. The *Jātakas* mention an ivory workers' street (Bk. I : no. 72), dyers', perfumers' and florists' shops (Bk. X : no. 454). Together with these there are references to the hawker who either bartered his merchandise for trinkets or else sold it against cash payment (Bk. I : no. 3). This itinerant trader is likely to have handled articles of a more prosaic nature needed by the common people, such as pots and pans.

For their requirements of essential services, people approached craftsmen who resided in villages on the outskirts of a city and this arrangement is reflected in the *Jātakas*. The carpenters (*vaḍḍhakī*) from a village near Varanasi used to claim that they would make a bed or a chair or a house and after receiving a large advance they proved unable to provide the goods (Bk. XII : no. 466). The Bodhisattva was born in Kasi in a smith's family (*kammārakule*). Not far from their village was another smith's village (*kammāragāma*) of a thousand houses. The principal smith (*kammārajeṭṭhaka*) was a favourite of the king, rich and a man of great substance. People came from the villages around to have razors, axes, ploughshares and goods made (Bk. VI : no. 387).

Literary texts thus make a distinction between a general trader (*vaṇij*) and the *seṭṭhi* who was possibly a financier; as opposed to these was the *sārthavāha* or the caravan leader who either transported his own goods or those of other merchants. The *seṭṭhi* in the *Jātakas* was a man of immense wealth and hence constantly in the retinue of the king. References to *seṭṭhis*' rice fields imply that they were both traders and landowners. Pāṇini (III.3.52) refers to traders as *vaṇik* and makes a distinction between the *krayavikrayika* (whose main occupation was buying and selling, IV.4.13), the *vasnika* (who invested his money in business, IV.4.13), the *samṣthānika* (a member of a guild, IV. 4.72) and the *dravyaka* (trader on outward journey carrying merchandise for sale) (Agrawala, 1953 : 238).

It is hazardous to generalize from literary texts pertaining primarily to the Gangetic valley as conditions were by no means similar between the Gangetic valley and the western Deccan. By the beginning of the Christian era, the former had been extensively settled and had already undergone the experience of the centralized administration of the Mauryans, while in the case of the latter, the Sātavāhanas were the first local dynasty to rule the western Deccan. Besides there are indications of the existence of an earlier rudimentary exchange network in the Deccan which the Mauryans possibly exploited.

Sātavāhana inscriptions indicate merchants by the use of terms such as the *seṭṭhi* (Burgess and Indraji, 1976, reprint : 3, 16, 19), the *vaṇij* (ibid. : 67), the *saṭhavāha* or *sārthavāha* (ibid. : 19–21) and the *negama* (Burgess, 1883 : 80–1; Senart, 1905–6 : 75). The first three terms are known from the *Jātakas* as well, the last denoting persons connected with a *nigama*. A *nigama* has been described as a *gāma* composed of members of various groups more or less integrated (Wagle, 1966 : 22). Others do not regard a *gāma* and a *nigama* as synonymous and translate the latter term as a market town on the evidence of the *Amarakośa* (II.9.78) which refers to a merchant as a *naigama*. *Nigamas* such as those of Taxila and Kausambi are known to have issued coins under their own authority (Ghosh, 1973 : 46).

The craftsman formed the basis of handicraft production. The *Arthaśāstra* (IV.1.2.–3) makes a distinction between two types of craftsmen; the *kāruśāsitṛ* who appears to be a master craftsman employing a number of artisans on a wage to do the actual work for the customer; and the *svavittakāru* who was probably an artisan working independently with his own capital and workshop, and states that the craftsman should accept entrusted material with the guarantee of the guild. The distinction appears in the *Jātakas* as well where mention is made of the master carpenter (*jeṭṭhaka*, Bk. XII : no. 466), master smith (*kammāra-jeṭṭhaka*), master garland-maker (Bk. VII : no. 415) and master mariner (Bk. XI : no. 463). At the same time there are references to apprentices, e.g. a potter's apprentice (*rājakumbhakārassa antevāsika*, Bk. XX : no. 531). Possibly a similar distinction is meant by Pāṇini also when he distinguishes between a carpenter earning his living by serving the village and one working in his own workshop (V.4.95), though some scho-

lars have somewhat erroneously argued for the prevalence of the *balute* or *jajmāni* system on the basis of this evidence (Gopal, 1970 : 763–8).

Literary references to guilds (*seṇi, śreṇi*) at this time are of a general nature and the number eighteen commonly referred to (*Jātakas*, Bk. XXII : no. 538) seems to be more in the nature of a stereotype description than one based on realistic grounds. A treasurer in the *Jātakas* (Bk : X : no. 445) was made judge of all the merchant guilds (*seṇi*), while elsewhere there is reference to a quarrel between two ministers in the service of the king and at the head of the guilds (*seṇipamukha*, Bk. II : no. 154), but nowhere are eighteen guilds separately enumerated. It would thus seem that though the guilds had become rich and powerful at this time their number was not fixed.

Inscriptions of the western Deccan record investments made with the different guilds: the guilds of bamboo workers (*vasakara seṇi*) and braziers (*kāsakāra seṇi*), mentioned at Junnar (Burgess and Indraji, 1976, reprint : 47); and the guilds of weavers (*vāthavāsa śreṇi*), potters (*kulārika*), dealers in water machines (*odayantrika*), and oil millers (*tilapiśaka śreṇi*) dwelling at Govardhana (Senart, 1905–6 : 82–5, 88). Guilds also made donations and a Junnar inscription records the gift of a seven-celled cave and cistern by the guild of corn dealers (*dhañika seṇi*) (Burgess and Indraji, 1976, reprint : 54), while at Pitalkhora a damaged epigraph possibly records a gift by a bankers' guild (*ya.. aṭhi seṇi*) (Deshpande, 1959 : 77).

Other professionals mentioned in inscriptions, however, do not seem to be organized in guilds, or else the donors were master craftsmen; in which case it is surprising that this is not mentioned. In all likelihood then, they were ordinary workers and included jewellers (*manikāra*, Burgess, 1883 : 82), goldsmiths (*suvaṇakāra*, Burgess and Indraji, 1976, reprint : 53–4), those who examined coins (Kosambi, 1981a : 38) or treasurers (*heraṇika, hiramakāra*, Burgess, 1883 : 75, 78; Deshpande, 1959 : 82), blacksmiths (*kamāra*, Burgess, 1883 : 66), ironmongers (*lohavaṇij*, Burgess and Indraji, 1976, reprint : 16), carpenters, (ibid. : 30) perfumers (*gādhika*, ibid. : 29, 39), stone masons (*selavaḍhakī*, Burgess, 1883 : 73) fishermen (Senart, 1905–6 : 76), gardeners (*mālākāra*, Burgess and Indraji, 1976, reprint : 14, 18), physicians (*veja*, ibid. : 12), writers (ibid. : 4, 9) and

maritime traders (*sagarapaloganas*, Burgess, 1883 : no. 23).

The pattern of trade that emerges suggests that craftsmen either lived in specialized villages in the vicinity of cities or else organized themselves into guilds which also acted as bankers and gave an interest on investments; a third alternative was that a craftsman could work on his own with a number of apprentices. In the *Arthaśāstra* (II.23), there is a reference to the king's textile factories where slaves were employed. An analytical study, however, shows that the use of slave labour did not play any significant role in agriculture or handicraft production (Bongard-Levin, 1978 : 199–227). The goods thus produced were either sold in retail shops in urban centres or transported to market centres and exchanged in wholesale transactions. Merchants also traded extensively by sea with centres along the Arabian coast. At the same time merchandise was exchanged at ports on the Indian coast, supplemented by the looping trade. At the bottom of the scale was the itinerant trader who hawked goods from place to place. In certain cases the itinerant trader may have been a craftsman also and hence sold his own goods. Weekly markets and fairs may have also provided venues for commercial transactions as was the case at the turn of the century.

> The market days are known throughout the neighbourhood and all who have anything to sell or buy crowd to the market that is usually held in some open space in the village. Almost everything required by the people: grain, salt, spices, pepper, bangles, cooking vessels, coarse cloth and in some places ponies and cattle are offered for sale. Small villages generally depend on weekly markets for their supplies. The dealers have fixed shops in some neighbouring town or village and go from one market to another. Generally one member of a family travels, while another stays at home and minds the shop *(Maharashtra State Gazetteer, Nasik district*, 1975 : 517–18).

Unfortunately no such details are available for the period under study and there is only an occasional reference to fairs. 'Once the Bodhisattva lived as a drummer in a village. Hearing that there was to be a festival at Varanasi and hoping to make money by playing his drum to the crowds of holiday makers, he made his way to the city' (*Jātaka*, Bk. I : no. 59).

A better idea of the trade mechanism could be had if one could enumerate commodities in demand at this time and

possibly indicate production and retail centres. A useful guide in this regard is the *Periplus*. It refers to agricultural products like wheat, rice, clarified butter, sesame oil and honey (sec. 14) and lac (sec. 6) which were exported from Barygaza to Cape Guardafui and Moscha, and exchanged for frankincense, tortoise shell and rhinoceros horn. Trade was also carried on by those who called at Dioscorida from Barygaza and Damirika or Limurike (Tamil country), bringing rice, wheat, Indian cloth and a few female slaves (*Periplus* : sec. 31). We shall deal with imports subsequently; here we should like to indicate that these agricultural products were perhaps the only essential items exported at this time from the western Deccan and were possibly required for the sustenance of trading communities settled along the southern coast of Arabia and the Somali coast of Africa (ibid. : sec. 6, 14).

Sesame was cultivated partly on account of the oil which was extracted from the seeds and partly for the seeds themselves. Strabo mentions the ancient use of sesame oil in Mesopotamia for anointing the body (*Geography*, XVI.1.20), while sesame seeds were extensively used as spices (Miller, 1969 : 87). Raschke (1978 : 651) has shown that sesame was produced in considerable quantities in Egypt, Syria and Babylonia and there is no reason to assume that it was exported in large quantities from India to Rome. It is more likely that it was meant for local consumption along the Arabian and East African coasts.

A majority of the items shipped from the west coast of India were sent in their raw or unfinished state. These may be divided into the following categories: bulk items like ebony, teak, blackwood, sandalwood, bamboo, tusks for ivory, and iron; easily transportable merchandise including aromatics such as spikenard, bdellium, costus, lycium and saffron; items treasured for their medicinal value such as long pepper, malabathrum and cinnabar; dyes such as indigo and lac; semi-precious stones like agate, red jasper, carnelian and onyx; and perhaps once in a while an exotic bird such as the peacock (*Periplus*: sec. 49). About the only products that required manufacture were textiles sent to Adulis at the mouth of the Bay of Adulis. These included the broader Indian cloth called *monakhe*; cloth called *sagmatogenai*; belts, garments called *gaunakai*; mallow cloth and a

little m''slin (ibid. : sec. 6). Schoff (1974 : 73) translates *monakhe* as 'singularly fine cloth' and *sagmatogenai* as 'the sort used for stuffing' and states that these words may be Greek corruptions of some Indian trade name. Mallow cloth was a coarse cotton cloth dyed with a preparation from a variety of the hibiscus native in India. Miller has provided an alternative categorization of the commodities exported from Bharuch as spice commodities and non-spice commodities (1969 : 202).

Raw silk, silk yarn and silk cloth were brought from China through Bactria to Bharuch and shipped to Arabia where they were used in making embroidered and silk fabrics for the Roman market (*Periplus*: sec. 64). It is uncertain at what stage the production of silk from domesticated silk worms spread to India;[4] references to *cīnāṃśuka* in the *Arthaśāstra* (II.9) are taken to indicate the presence of Chinese silk obtained through commercial channels. There is evidence to prove that silk was used in Bactria which was imported from India in the second century B.C. if not earlier. Chang K'ien in about 129 B.C. found the Bactrians using Chinese silk, which according to the inhabitants came from India (Thapar, 1977 : 219). The earliest document specifically referring to a domestic silk industry in India is the Mandasor inscription of the Gupta period which mentions the repair of a temple by the silk weavers' guild (Sircar, 1964 : 294–307). The term *'kṣauma'* occurs several times in Sanskrit and Pali literature dated to the Early Historical period and has been translated as a variety of silk, though in later literature it is used for linen (Moti Chandra, 1973 : 6). Unambiguous evidence comes from Dura Europos where microscopic analysis of the fibres has shown that at least one of the silk textiles found at the site is of Indian origin (Raschke, 1978 : 623), thereby suggesting the export of Indian silk together with that obtained from China.

Alternatively, these export commodities can be divided into two categories on the basis of their destination with a marked difference between the two : those shipped to the Persian Gulf, southern Arabia and Cape Guardafui; and those meant for Alexandria and from there to the Roman market. While the first category included raw materials like iron, copper and silk, to be

[4] A thread from Nevasa Chalcolithic period is of silk and cotton (Sankalia, 1974 : 486).

reworked and sold as finished products, dyes like lac required for colouring the silk, essential foodstuffs and cloth, the second category comprised mainly luxury items. Timber exported from Bharuch probably found its way both to the Persian Gulf and the Mediterranean markets. The *Periplus* (sec. 36) states that from Bharuch large vessels were regularly sent to the market towns of Persia including Oman and these carried sandalwood, timbers of teakwood and logs of blackwood and ebony. Teak thus imported into the Persian Gulf towns may have been used for ship building as Arabia does not produce wood suitable for building ships (Hourani, 1963 : 89).

Pliny states that ebony was exhibited at Rome by Pompey the Great on the occasion of his triumph over Mithridates (*Natural History*, IV.12.9) and bamboo was used in Roman temples (IV. 16.15). The cost of perfumes was more than 400 *denarii* per pound . . . Emperor Caligula had the bath tubs scented and so also later did one of the slaves of Nero . . . . In the camps the eagles and standards were anointed on holidays (Rackham tr., 1938 : IV.13.4). Cane sugar was employed as a medicine and indigo was used to dye clothes purple (IV.35.27).

Alexandria was an important centre for the manufacture of different kinds of metal-work, glassware, perfumes, unguents and other aromatic products. The raw material for perfumes extracted from flowers and plants was for the most part cultivated in Egypt, whereas aromatic gums and resins were mainly though not exclusively imported from Somaliland, Arabia and India (Fraser, 1972 : 141). The reputation of Alexandria as a major market and distribution centre for trade with south and south-east Asia is justified but should not detract from the importance of Coptus. Merchants from Palmyra and Alexandria engaged in the Red Sea trade were stationed here; the city possessed industries of its own and may well have been the major centre for the exchange of currencies and bullion needed in the trade with India (Raschke, 1978 : 644). Strabo states in his *Geography* (XVI.4.24) that from Myos Hormus merchandise was conveyed on camels to Coptus, situated on a canal of the Nile and from there aboard Nile boats to Alexandria. The commercial importance of Coptus came to an end with the destruction of the city by Diocletian in A.D. 297.

Palmyra was the best documented commercial centre of

Rome's eastern frontier. The city was, at the latest by the time of Tiberius, an autonomous city in the Roman Empire and its merchants went by sea to Indian ports (Raschke, 1978 : 643). However, it was sacked in A.D. 273 and never recovered thereafter. Within the Roman Empire itself it was these same Oriental Greeks who played a leading part in the distribution of such products as spices and perfumes. Enclaves of merchants from Alexandria and the Levant are attested in Puteoli, Ostia and other cities (ibid.).

Thus most of the commerce would have been in the hands of Roman subjects, i.e. the merchants of Egypt and Palmyra, but there were also Arab ships and Indian vessels engaged in this sea trade. Enclaves of western merchants grew up upon the littoral islands of the Indian Ocean, e.g., on Socotra where Greek merchants had lived with Indians and Arabs since Ptolemaic times (*Periplus* : sec. 30).

Whereas Greek and Roman ships were built with close-set mortise and tenon joints and nails, Arab vessels were constructed of planks of wood fastened together and to the keel by means of stitches of either cords of coir or palm fibre threads (Hourani, 1963 : 110). Several scholars have suggested that Indian ships were also built by a similar technique, the planks being stitched together by means of ropes (ibid.). The surviving practice on the west coast indicates the use of a coir or jute cord steeped in cashewnut pitch run through the holes in the planks just as when sewing (Hariharan, 1965–6 : 28). Important evidence on this, however, comes from a medallion at Bharhut (Figure 4.1) which shows in two scenes the experiences of a sea-faring merchant Vasugupta (Cunningham, 1879 : pls. 34, 56). Contrary to the hitherto held opinion, it has been asserted that the method of construction followed was a dovetail binding of planks and definitely not stitching (Schlingloff, 1982 : 56). Indian ship building technique followed the carvel method of construction in which the planks were placed edgewise and fastened by wooden dowels (ibid.).

The *Periplus* mentions the *kotumba* and *trappaga* (sec. 44) used for piloting merchant vessels into Bharuch. These terms correspond to the *kottimba* and *tappaka* enumerated in a Jain text under the category of medium-sized ships (*Aṅgavijja* : 166). Hornell has identified the first type with the modern *kotia*,

Fig. 4.1. Relief from Bharhut (Cunningham, 1879, pl. 34)

generally under 200 tons. (1918–23 : 142). Elsewhere the *Periplus* (sec. 60) mentions Indian trading vessels called *sangara* and *kolandiophonta*. Schoff correlates the former with the *sangadam* (Tamil), a double canoe made from two great hollowed-out tree trunks, a type of craft now restricted to rivers. *Kolandiophonta* described vessels of great bulk employed for overseas voyages to Malaysia. These were probably two-masted vessels, perhaps equipped with stout outriggers and counterparts of the present-day Sinhalese *yatra oruwa* (Hornell, 1918–23 : 215).

Ancient Indian literature provides scant information on the dimensions and carrying capacity of ships; literary references generally speak of a stereotype of 500 or 700 persons (*Jātaka* Bk. II : no. 196; Bk. XVI : no. 518; Bk. XXII : no. 539) which seems to be a plausible figure. According to a Chinese author of the third century A.D. the ships of the barbarians—presumably those of the Indians—carried six to seven hundred persons and were 40–50 metres in length (Schlingloff, 1982 : 52). Pliny (VI. 24) states that the capacity of Indian ships was 3,000 amphorae,

i.e. about 75 tons. These figures compare favourably with other merchant ships in antiquity.

While texts describing the ships' frame do not indicate anything more than that it was made of planks (*phalaka*, *Jātaka*, Bk. XXII : no. 539) they do provide information on different parts of the ship. The mast was known as *kūpa*, *kūpaka* (*Jātaka*, Bk. II : no. 91; Bk. X : no. 442) *kūpakayaṭṭhi* (ibid., Bk. X : no. 442) and was put up when the ship put to sea. In the *Amarakośa* (13, 491) a mast is described as a tree-trunk fastened by ropes or as a post in the middle of a ship (*Amarakośa*, 163;97). Several words were used for rigging, e.g., *rajju*, *yotta* (*Jātaka*, Bk. II : no. 190) or *raśmi* (*Arthaśāstra* II. 28.13). This differentiation was necessary so that a steersman could clearly convey instructions to the sailor for servicing the ropes, and in Greek as many as eight different words were used (Schlingloff, 1982 : 53). There are no precise terms that indicate a transom tied to the sails and the few terms indicating a spar remain uncertain. The sail is sometimes indicated by a foreign word perhaps originating in the Indonesian archipelago, e.g. *lakāra* (*Jātaka*, Bk. II : no. 190); the more common word is, however, *paṭa*, *sitapaṭa* or *sīta* (ibid. : Bk. X : no. 442). Several terms have been used for a steering oar though its exact position is somewhat vague (Schlingloff, 1982 : 54). An anchor was used to bring stability to the ship (*Milinda-pañha* : II.247) and there is mention of the use of shore-sighting birds for navigation. The most important piece of information available in these texts is that the ships had three masts (*tayo kūpakā*, *Jātaka* Bk. X : no. 442).

The use of the term *nausārathi* (*Jātakamālā* : XIV) perhaps indicates the practice of a whole fleet sailing and corroboration for this may be found on a lead coin of Yajñaśrī in the British Museum which has a similar representation (Gokhale, 1984). The members of the crew responsible for a big ship (*mahānāva*) included a captain (*śāsaka*), a pilot (*niryāmaka*), a manipulator of the cutter and ropes and a bailer of water (*utsecaka*, *Arthaśāstra*, II. 28.13). The *Jātakas* mention a *niyyāmakajeṭṭhaka* (Bk. XI : no. 463) and include amongst the crew sailors (*kammakāra*, Bk. I : no. 31) who worked the sails and oarsmen (*Jātakamālā* : XIV). Ships used to sail in the open sea where the coast was no longer visible (*Jātaka*, Bk. XVI : no. 518).

Sātavāhana coins are an important source of information on

the types of ships in use (Figure 4.2). These depict double-masted ships—the masts being fastened on each side with two or three braces—and with a slightly raised bow and stern. One of the coins clearly shows a sail; another, what appears to be a pennant. The rudder forms an integral part and is shown as a steering oar; permanently fixed oar-blades fastened to the ship's stern being later inventions (Schlingloff, 1982 : 57). A rather unusual representation of the boat form is found in the shape of a shell bead from Kondapur (Dikshit, 1952, 13).

Fig. 4.2. Some Sātavāhana coins (Moti Chandra, 1977, fig. 5)

Hourani (1960 : 135–6; 1963 : 28) has written on the flimsy construction of Arab vessels which could not withstand the south-west monsoon in the open seas, hence had to sail along the coasts of Arabia and Iran. This view has come in for considerable criticism by Van Beek (1960 : 136–9) on the basis of research carried out by Bowen (1952 : 201, 209) who has drawn attention to the fine construction, strength and flexibility of sewn boats compared to modern *dhows* with their nailed hulls. This type of construction does not limit the size of the craft either, as sewn vessels of approximately 200 tonnes are known, larger than the average modern ocean-going *dhow*.

Bowen's study has shown that contrary to Hourani's view, the square sail was used by local vessels operating in the Arabian Seas and as these boats must sail before the wind and cannot tack into the wind, they had to use the south-west monsoon (ibid. : 217–18). Besides the nature of the south-west monsoon has been greatly misunderstood. This monsoon is the prevailing wind system over the Indian Ocean and the Arabian Sea during the six-month period from May to October. It is generally a fair-weather trade wind, except along the coast of India where it is usually strong during part of this period. Along the Konkan coast, the rough spell lasts from the first week of June to mid-August. Thus the conclusion is inescapable that

the south-west monsoon could be used by the ancient Arabian vessels during the rest of the period (Van Beek, 1960 : 138).

Casson has done a comparative study of the sea routes from the Red Sea to East Africa and to India (1980 : 21–36). Ships heading for Africa left Egypt in July (*Periplus* : sec. 14). In the Red Sea, because of its dangerous shoals, all vessels sailed only during the day, putting in toward nightfall at the nearest available anchorage. Thus it required from 75 to 100 days to reach Cape Guardafui and from there it would have taken up to November or December to reach Zanzibar. The earliest that a ship could leave for the voyage back was August, so as to reach Guardafui not before October in order to catch the early north-east monsoon which would provide favourable winds for traversing the Gulf of Aden, and then to travel with favourable winter southerlies in the Red Sea (Casson, 1980 : 28–9). As compared to the two years required for a round trip, including six months or so to collect a cargo, the voyage to India's west coast was much shorter. Ships left the Red Sea ports in July (*Periplus* : sec. 39, 49, 56) in order to reach the west coast of India no earlier than September when the south-west monsoon was approaching its end and beginning to quieten down. The return was no problem: departure in December-January meant that it took place during the benign north-east monsoon. And since this lasted from November to April, one could shove off even earlier or later (Casson, 1980 : 33–4).

The short duration of the halt along the coast coupled with the fact that a voyage to India was a high-risk proposition and that it involved a heavy investment made it imperative that foreign merchants develop favourable commercial contacts in the western Deccan that would enable them to dispose of their cargoes quickly and to purchase merchandise in return. A study of seventeenth-century trade patterns shows that this need was fulfilled by the development of an efficient and well-organized chain of brokers. For the period under study there is no such direct evidence; circumstantial evidence would however indicate a well-organized local trade network that handled the transportation and distribution of imported merchandise and which also made available merchandise for export.

As raw materials formed a large part of the items for export, we should examine their place of origin and the resources

required both in terms of money and transportation for their procurement. All the woods that were exported, i.e., ebony, teak, blackwood, sandalwood and bamboo, are indigenous to the peninsular region of India. The forests at one time teemed with wild life so that tusks for ivory could be easily obtained, though Africa continued as the main source of the Mediterranean world's ivory supply (Raschke, 1978 : 650). Similarly wheat, rice, oilseeds and sugar cane grow well in the valleys of the western Deccan.

Teak is found in the Satpura range; in north Konkan; and at the foot of the Khandesh ghats (Watt, 1972 : VI, 1–14) and may have been exported from Bharuch and Kalyan. These ports may also have provided outlets for other varieties of woods like blackwood, found in north Konkan and central India (ibid. : III, 7–10), and perhaps for bamboo which occurs abundantly in the Konkan and on the Western Ghat ranges. It is unlikely, however, that ebony and sandalwood would have been transported north from their habitat in south Konkan and the Malabar coast (ibid. : III, 138–41; VI, 461–7). Modern research suggests that the dry regions of eastern Indonesia, rather than south India, may have been the chief source of sandalwood in ancient times. The *Periplus* does not mention it as an export from the Malabar, but records that large ships loaded with copper and sandalwood, timbers of teakwood and logs of blackwood and ebony sailed regularly from Bharuch to the Persian Gulf (sec. 36). It may have been an entrepôt trade and this sandalwood came both from the Malabar and from Indonesia after trans-shipment through Sri Lanka (Miller, 1969 : 86–7).

Kauṭalya specifies sixteen kinds of sandalwood (*Arthaśāstra*, II.11.43–55) but does not mention the name *valgu* which is derived from *valgum*, the Malabari equivalent of the Sanskrit *candana*. On the contrary, the earliest reference to sandalwood in western literature in the Old Testament describes the wood as being obtained from 'algum' or 'almug' trees, an obvious allusion to *valgum* (Miller, 1969 : 62).

Of the aromatics, bdellium is obtained from a tree which grows in the arid zones of the Tapti basin and in Sind, Kathiawar and Rajasthan. From incisions made in the bark of the tree a gum oozes in the cold season and is collected in

vermiform pieces of a brown or greenish colour (Watt, 1908 : 400). It is frequently mentioned in Sanskrit literature, including the *Atharvaveda*, as *guggulu*. Long pepper is obtained from a perennial shrub native to the Konkan and Malabar coasts. The fruit is gathered when green and is dried in the sun for preservation. The dried unripe fruit and the root have long been used in medicine (ibid. : 891). Kauṭalya refers to two kinds of pepper; long pepper (*mirica*) and black pepper (*pippali*), *Arthaśāstra*, II.15.20).

Western India has been described as the main source of another herb from which the indigo dye is made. Writing in the thirteenth century, Marco Polo states that it is gathered and after the roots have been removed, 'it is put into great vessels upon which they pour water and then leave it till the whole plant is decomposed.' This liquid is then put in the sun where it dries and coagulates and is then divided into small pieces (ibid. : 664).

The western Deccan is also a rich source of semi-precious stones such as agate, carnelian, red jasper and onyx. The Rajpipla mines near Bharuch are famous for agate and carnelian, though the *Periplus* states that carnelian was brought to Bharuch in great quantities from Paithan, while common cloth, all kinds of muslins and mallow cloth came from Ter (sec. 51). The latter area is known as a cotton-growing area and further corroboration of the statement may be seen in the recovery of a number of vats for dyeing cloth at the site (*IAR, 1968–69* : 17–18).

The *Periplus* (sec. 6) states that from the inland regions of Ariake, Indian iron and steel was imported by the west. Contrary to the view that the source of the iron should be sought either in China or in the Chera kingdom, Schoff (1915 : 233) has argued for the region around Hyderabad. The ores found in this area are principally rock magnetite and the steel produced from these was a good grade of charcoal crucible steel (ibid. : 235). In any case the total amount shipped westward must have been very small (ibid.). Raschke (1978 : 651) has criticised this theory on the grounds that carbon steel as a local product was not unknown in the Mediterranean region. A better identification would surely be cast iron, the production of which while unknown in the west was familiar to the Chinese and some people of central Asia (ibid.). While conceding the

existence of a Chinese source, Indian origins may also be postulated. Excavations at Naikund in Vidarbha have indicated the smelting of local iron ores as early as the seventh and sixth centuries B.C. (Deo, 1982 : 5) and the artefacts found at megalithic sites contain a high percentage of iron with little impurity or admixture. That iron-working continued to be a profitable occupation under the Sātavāhanas as well is attested by inscriptions which record the donation of a cave by a *lohavaṇija* (Burgess and Indraji, 1976 : Kuda, no. 20) and that of a path by a *kamāra* (blacksmith, Burgess, 1883 : Kanheri, no. 30).

Though much of the merchandise required for export was available locally, a few items had to be procured from elsewhere. These were, however, small items in terms of volume and presented no problems of transportation. Spikenard comes from a plant which grows in the Himalaya extending eastwards from Garhwal to Sikkim (Watt, 1972 : V, 338–42). Pliny in his *Natural History* describes the plant at some length as its leaf 'holds a foremost place among perfumes', though at times it is adulterated with its root and other substances (IV.12.26). The price of nard is dependent on the size of the leaf and the best quality Indian nard sold for 100 denarii per pound, while Gallic nard was considered inferior and fetched only three denarii for a pound.

There is an interesting passage in Dioscorides (*De Materia Medica* : I.6) pointing to another source of spikenard west of the Himalaya which is corroborated by the *Periplus* (sec. 48) and Cosmas (*Christian Topography*, XI, 332). There were two kinds of spikenard, Dioscorides wrote, 'the one Indian and the other Syrian; not that it is found in Syria, but because one part of the mountain where it grows turns towards Syria, and the other towards India.' This mountain appears to have been the Hindu Kush or perhaps the mass of the Pamirs together with their extensions westward in the Hindu Kush.

The *Periplus* speaks of three sources of spikenard which came down from the mountainous north through Poclais (Charsadda) and Ozene (Ujjain) and was shipped at Bharuch. The first source was Caspapyra (Jalalabad) on the Kabul river, the second the Paropamisus or Hindu Kush, which would include the 'Syrian' nard of Dioscorides, and the third the region of Kabul. The spikenard from these areas was distinct

from that which grew on the southern slopes of the Himalaya between Garhwal and Sikkim; it came across the country via Ujjain to Bharuch or was shipped at the Ganga town as Gangetic nard, and brought down the east coast to the Cola region for final shipment from the ports of the Malabar (*Periplus* : sec. 48, 49, 56, 63).

Costus[5] was obtained from a herb indigenous to the moist open slopes surrounding the valley of Kashmir. Trade in costus between Kashmir and the west coast existed early in this century as well, when roots of the plant were dug up, cut into small pieces and sent to Bombay for export (Watt, 1908 : 980). The *Periplus* (sec. 49) included costus among the exports from Barbaricon and Barygaza, to which it came 'from the upper country', together with spikenard and bdellium. Kauṭalya (*Arthaśāstra*, II.11) refers to it in the category of poisons. In antiquity, it was used medicinally and as a source of incense (Miller, 1969 : 84). Saffron has also long been cultivated in Kashmir; the flowers of the plant are dried in the sun and three long stigmata picked by hand (Watt, 1908 : 429). Malabathrum comes from an evergreen plant indigenous to the southern slopes of the Himalaya from the Sutlej to Assam, the leaf of the plant being important (ibid. : 310). Its present habitat includes north Kanara district, though it is doubtful if this provenance was known in Roman times. Cosmas made no mention of it when describing the trade of Malabar in *c.* A.D. 527 (Miller, 1969 : 74). The *Periplus* makes it clear that there was an important market area at the mouth of the Ganga to which there came from China not only silk, but also malabathrum (sec. 65). The identity of the Besatae tribe which carried on this silent trade continues to be uncertain (ibid.). Another product possibly of the north was lycium, obtained from a plant which grows extensively in the Himalayan districts as well as in the Nilgiris in the south. A watery extract was perhaps prepared from the stem and root of the plant. Pliny (*Natural History*, IV.12.31) and the *Periplus* (sec. 39) state that lycium was sent to Rome in rhinoceros and camel skins by Indians.

[5] There is a difference of opinion as to whether *Costus speciosus* which is abundantly found in the Konkan and Coromandel region is the costus used in ancient times, or whether it is *Saussurea Lappa* which is indigenous to the moist open slopes surrounding the valley of Kashmir. Watt favours the latter identification (1972 : II, 579; VI, 481).

Warmington has suggested that raw cotton was exported to Alexandria and Syria from India. Egyptian documents and excavations at Meroe and Karanog in the Sudan attest to the cultivation and widespread use of cotton in Egypt. There is little reason to assume that India was the primary source of cotton materials in antiquity. In general, however, it is unlikely that cotton either eastern or Egyptian played a significant role in the textile industry in the western provinces (Raschke, 1978 : 651). In all likelihood, cotton fabrics may have been required for use in Arabia. The manufacture of textiles was an important craft in India at this time. Kauṭalya states that cotton fabrics from Madhurā (Madurai), Aparānta, Kalinga, Kāśī, Vanga, Vatsa and Mahiṣa are the best (II.11.115). The *Periplus* mentions Bharuch as the outlet for cotton fabrics both from Ter and Ujjain (sec. 51). Inscriptions at Sanchi mention the gift of a weaver (*sotika*, Lueders, 1912 : no. 331) and a *pāvārika* or a *prāvāra* seller, the term referring to an outer garment or cloak (Moti Chandra, 1945 : 112). The processes of textile manufacture are described in several texts including the *Arthaśāstra* (II.23). Among the dyes used, Pāṇini (IV.1.42; IV. 2.2; VIII.3.97) refers to madder (*manjiṣṭha*), lac (*lākṣā*) and indigo (*nīlī*).

A unique item of export was found at Khor Rori, identified with the Moscha of the *Periplus*. The bronze statuette of a girl found in the débris of one of the houses has been dated to the second–third centuries A.D. and may have come from the western Deccan (Goetz, 1962 : 241–3).

An important conclusion that emerges from this discussion is that a majority of these export products were locally available in the western Deccan and some were native to the region. This local availability of bulk items would have solved the problems of transportation as well and as at present, bullock carts may have been used for carrying wood and agricultural produce from the inland regions of the western Deccan to the leeward side of the Ghats. From there the steep gradient to the ports on the west coast may have required the use of pack animals. It is not surprising that the caves are located at precisely those points where the change-over is required to be made. Toy metal carts (Figure 4.3) found at Brahmapuri give us an idea of the mode of transportation in use during the Sātavāhana period.

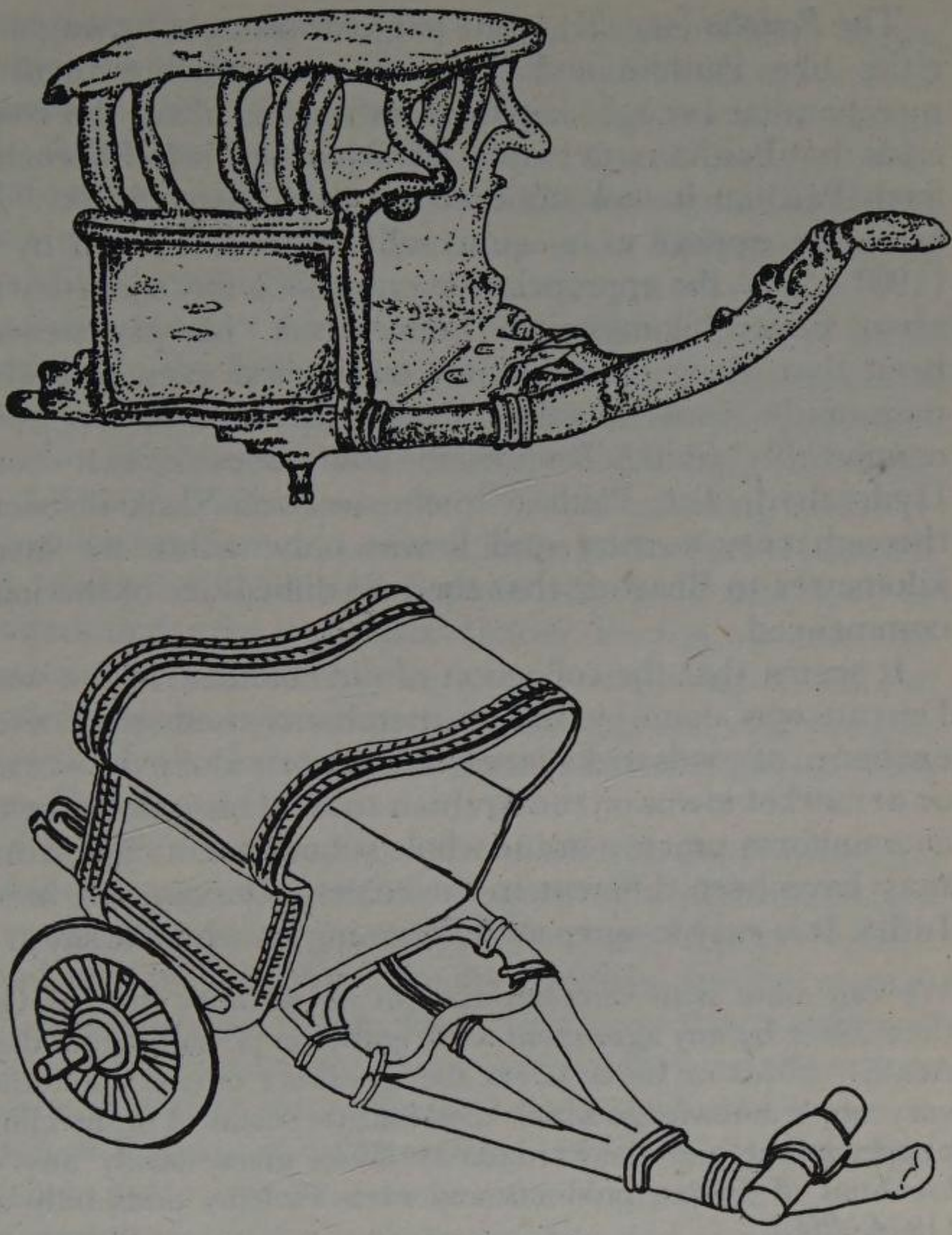


Fig. 4.3. Toy metal carts from Brahmapuri (Khandalavala. 1960, pl. XX, figs. 32, 33)

Possibly of light construction, these covered carts were intended for a pair of bullocks. The covering seems to have been of some solid material such as a framework of light wood or leather, but was not of cloth (Khandalavala, 1960 : 67). Sculptures at Amaravati in the eastern Deccan depict not only bullock carts, but also light vehicles for short journeys and war chariots drawn by horses (Sivaramamurti, 1942 : 140; Ghosh and Sarkar, 1964–5 : p. xli).

The *Periplus* (sec. 51) refers to goods brought by wagon from cities like Paithan and Ter and distinguishes them from merchandise brought locally from regions along the coast. It adds that Paithan was twenty days' journey from Bharuch, and from Paithan it took another ten days to reach Ter. These estimates appear to be quite reliable as calculated by Fleet (1901 : 547), the appropriate average for a day's journey being about fifteen kilometres by bullock cart. 'My experience has been that along cross-country tracks and even second-class man-made roads, 12 miles is quite as much as can be done comfortably' (ibid.). Besides, the route from the east coast via Hyderabad, Ter, Paithan to the west of Nasik district ran through easy country and it was only within the last 150 kilometres to Bharuch that the real difficulties of the journey commenced.

It seems that the collection of merchandise in the western Deccan was done by Indian merchants themselves and the exchange of goods took place either at ports along the west coast or at market towns on the Arabian coast. This is not to be taken as a uniform practice in the whole subcontinent. The situation may have been different in the eastern Deccan and in south India. It is easy to agree with Warmington when he says:.

> We can state with certainty that in no instance did the Greeks themselves by any agreement at all gather in person the products of Arabia, Africa or India; hence the ignorance of cinnamon and the very vague knowledge which they had for instance of the climbing pepper plant and the cardamom. Pliny gives hardly any exact localities of Indian products and even Ptolemy adds only a few (1974 : 260).

On the sea routes between the western Indian ports and Sri Lanka on the one side and the Persian Gulf, southern Arabia, Somalia, Axum and Egypt on the other, according to the pattern indicated by the *Periplus* for the first century, by Palladius for the third and fourth and by Cosmas for the sixth, Indians in their own ships 'fitted out from Ariake and Barygaza' carried on an active trade with Omana, Adulis and the Somali ports and this they were still doing in the fourth century.

The southern Arabians, from Cana and Muza, in their own ships, were carriers from the northern ports, perhaps from Malabar and possibly also from Sri Lanka. The Greeks were

carriers from ports all along the Indian coast and from Egypt. The ships would be owned by Romans and be rented or commissioned to merchants who would probably be Alexandrian Greeks with a knowledge of the Indian Ocean and the conditions of eastern trade. The crew would be composed of Greeks and any other likely seamen frequenting the Egyptian Red Sea ports (Miller, 1969 : 190).

The west coast of India had three major groups of ports: Barbarican in the Indus delta (*Periplus*, sec. 49); Bharuch and Kalyan; and the group formed by Mouziris (Cranganore). Nelkunda (Kottayam) and Bakare (Vaikkarai, ibid. : sec. 53–5). Of these Bharuch was the principal collecting and shipping port for northern and central India in the Early Historical period, though Kalyan and Sopara may have developed as contenders under the early Sātavāhanas. Bactria was also connected to Bharuch via Mathura, and bdellium, costus and spikenard were brought along this route, together with raw silk, silk yarn and silk cloth from the great inland city called Thina (China, *Periplus*, secs. 63–5).

To develop as an entrepôt, a place had to be much more than a market or market town. While the geographical situation on a main trade route was the most important asset of an entrepôt, it also had to provide facilities for the handling, sorting, storage and transportation of goods. Then there were the questions of personnel and finance, and adequate banking arrangements had to be made. In the absence of horizontal excavations at Bharuch or Kalyan, no information is forthcoming on the layout of these ports or the structural units within these.

The complexity of the exchange system and increased division of labour are, however, indicators of economic growth. The development of guilds at this time points to the need to organize and monitor complex commercial transactions. The large variety of artefacts unearthed during excavation at different sites in the western Deccan is an indicator of increased division of labour and the proliferation of crafts. The guilds performed banking functions as well and it was profitable to invest in guilds owing to favourable returns. A Nasik inscription (Senart, 1905–6 : 82–5) mentions investments with two separate weavers' guilds at Govardhana, the rates of interest of both being different. This was perhaps due to the varying qualities of cloth

in which these guilds traded or the different kinds of textiles that they produced. It is significant that the weavers' guilds were located at Govardhana while the textile-producing area as we have seen was around Ter. It is possible that the guilds were primarily responsible for the organization of trade, while actual production took place elsewhere.

A question that needs to be answered is: what was the nature of the imports? Did these fall under the category of essential or luxury items? For this evidence we would again have to rely on the *Periplus*. Frankincense and tortoise shell obtained in exchange for grain have been referred to. Other commodities included myrrh, wine, dates, glass, tin, lead, copper or antimony, realgar, coral, gold and silver coins, vessels of silver and in addition singing boys and maidens (sec. 49). Further proof of this comes from archaeological excavations.

At Ter glass beads, rings, a Roman glass bottle of the Mediterranean type (Figure 4.4), and terracotta lamps (Figure

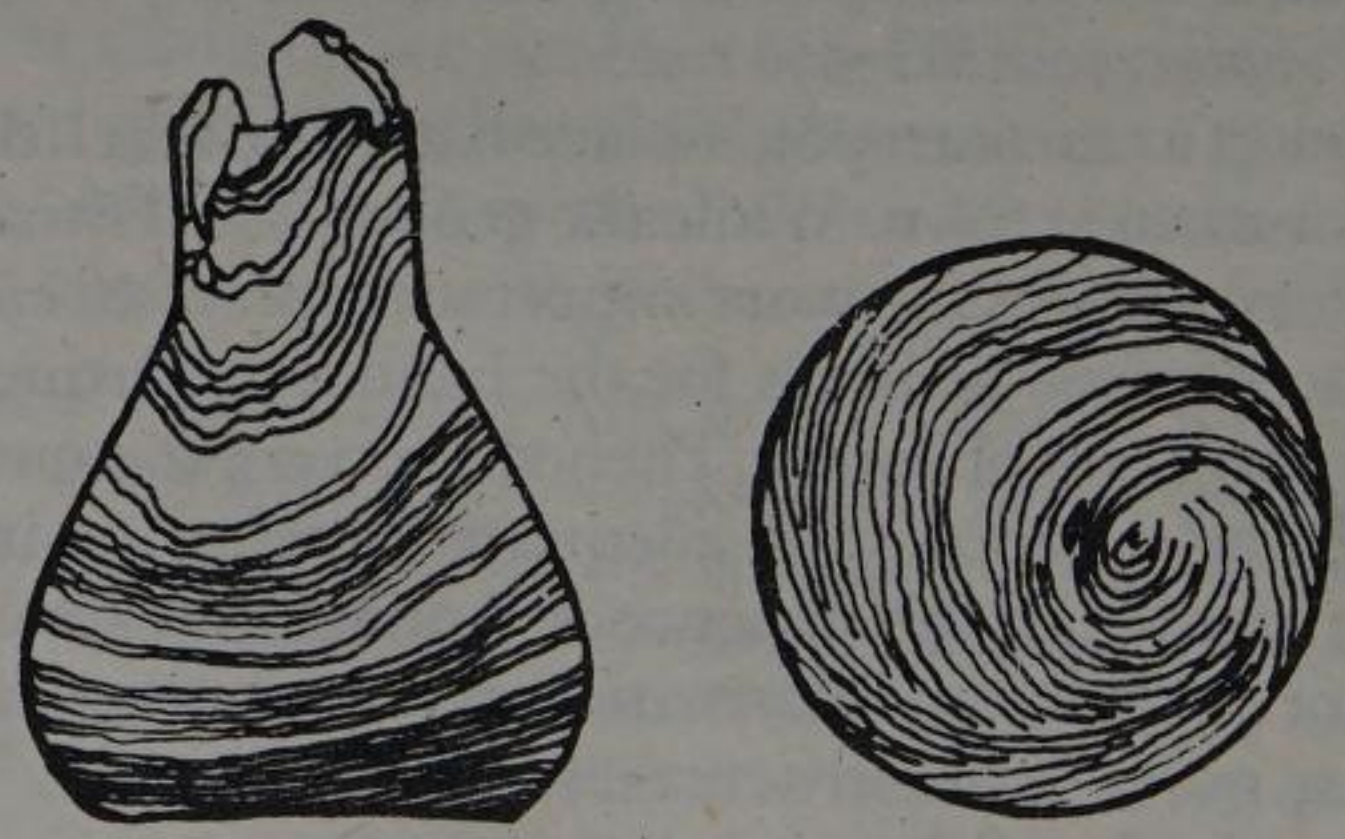


Fig. 4.4. Glass flask from Ter (Dikshit, 1969 : 45, fig. 11)

4.5), have been found (*IAR, 1967–68* : 35), while Brahmapuri has yielded a hoard of Roman metal objects of either copper, brass or bronze. These include a statuette of Poseidon; two handles of wine jugs intricately carved; a thin circular metal repoussé emblem with a slightly upturned rim possibly used as the base of a dish or of a small mirror case; a cup; a wine jug; a candlestick base; and a mirror with a slightly raised knob (Khandalavala, 1960 : 56). Another copper dish with a boss in the centre was found at Nevasa (Sankalia et al., 1960 : 421).

Evidence for the import of wine comes in the form of amphorae fragments from Nevasa which have a resinous coating on the interior. This coating either represents sediment from the wine or is a deliberate application to ensure non-permeability of the jars (Wheeler, 1955 : 180). Two human masks of terracotta used to decorate the sides of vessels have also been found at the same site (Sankalia et al., 1960 : 398–9). Pieces of Roman amphorae have been found at Junnar (*IAR, 1957–8*). Another significant discovery from the same site is that of a carved alabaster depicting the birth of Eros in an egg shell (Jadhav, 1981 : 64). Beads of lapis lazuli found at Bhokardan (Deo and Gupta, 1974 : 211), and a tiny figurine of the same stone from Brahmapuri (Sankalia and Dikshit, 1952 : 86) may also have been imports.

Kauṭalya, while describing the jewels to be introduced into the royal treasury, mentions Ālakandaka. This has been identified as coral from Alasanda or Alexandria, a port also referred to in the *Milindapañha* (Levi, 1936 : 121–33). A Brahmi inscription of the second century A.D. found at Alluru, Krishna district, refers among other things to the gift of lamps in the shape of the

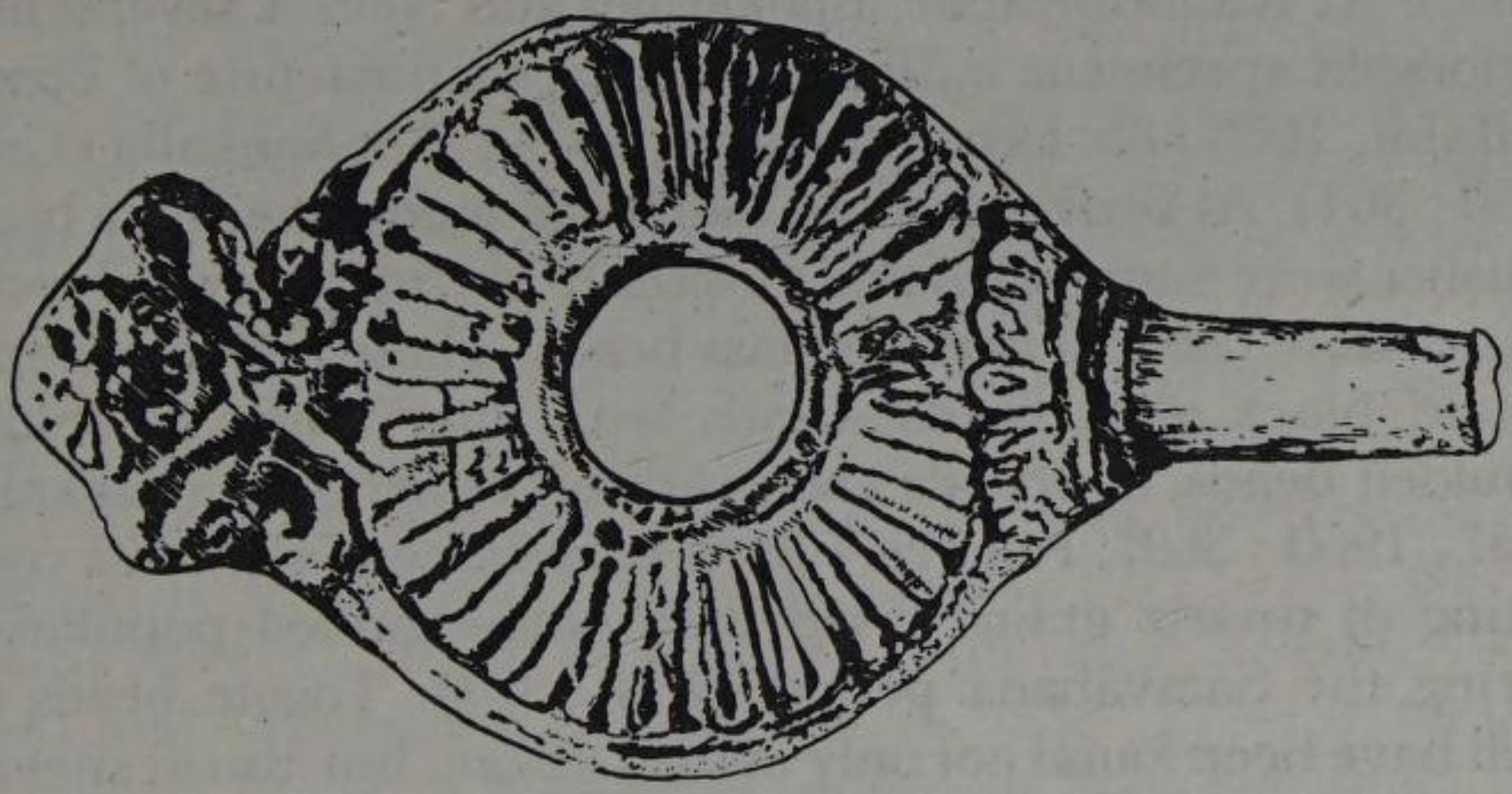


Fig. 4.5. Terracotta lamp from Ter (*IAR 1966–67*, pl. XII B)

mouth of a fish and manufactured by *yavanas* (Sircar, 1939 : 228–30). This is significant evidence indicating the participation of *yavanas* in the manufacturing process in the eastern Deccan.

Economic growth resulted in increased division of labour and diversification of handicraft production. Archaeological assem-

blages at Sātavāhana sites in the western Deccan show a larger proportion of luxury goods compared to earlier layers. The presence of nodules, unfinished beads and bead moulds suggests that bead making was a local industry at several sites such as Bhokardan (Deo and Gupte, 1974 : 119), Kaundinyapur (Dikshit, 1968 : 85), Nevasa (Sankalia et al., 1960 : 367), Ter, Paithan and Karad (Deo, 1975–6 : 37–41). Elsewhere, as at Maheshwar, Sātavāhana layers have yielded a majority of the total number of beads (Sankalia et al., 1958 : 185). Apart from semi-precious stones, artificial materials like faience and glass were increasingly used.

Certain varieties of blue glass beads, e.g. long cylinder, circular, collared, and convex barrel-shaped lenticular with lug collars have a dating value between A.D. 100 and 350 and have been found at several Sātavāhana sites in the Deccan such as Nasik, Bahal, Kolhapur, Kondapur, Karad, Maski, Paithan and Chandravalli, and at sites in the north such as Taxila and Ahicchatra (Dikshit, 1955 : 90; Sankalia and Dikshit, 1952 : 144). Equally widespread are the composite glass beads and the short convex barrel-shaped beads of glass coloured with cobalt (ibid.). At Kaundinyapur, Bhokardan and Nevasa several unperforated specimens indicate the local manufacture of beads (Dikshit, 1968 : 85; Deo and Gupte, 1974 : 119; Sankalia et al., 1960 : 367). At Bhokardan two moulds of soapstone and a bead polisher were found (Deo and Gupte, 1974 : 140). Several techniques were used for making glass beads. These included wire-wound black glass beads, beads with intervening gold foil, moulded beads, eye beads and beads of copper glass (Sankalia et al., 1960 : 369). Faience—hard porcelainous material consisting of quartz grains fused with lime—gained popularity during the Sātavāhana period (ibid. : 371). Toggle beads of shell have been found not only in the Deccan, but also at sites as far apart as Ahicchatra and Arikamedu (ibid. : 372).

Other flourishing industries were the shell bangle industry at Nevasa (Sankalia et al., 1960 : 458), Maheshwar (Sankalia et al., 1958 : 227) and Bhokardan (Deo and Gupte, 1974 : 119) and the ivory industry also at Bhokardan (ibid.) and at Ter and Kondapur (Deshpande, 1961 : 55–6). An ivory seal matrix was discovered at Dharanikota in late Sātavāhana levels (Mukherjee, 1970 : 141). There is a close similarity between the

ivory statuette of a female figure which possibly formed the handle of a mirror found at Ter with the specimen from Bhokardan. Other examples are available from Pompeii, though their provenance is still disputed (Dwivedi, 1976 : 64–6).

In addition to faience, kaolin was another raw material introduced during the Sātavāhana period. It was used for pottery, mirror handles and for the necks of small unguent bottles. The quarries in Karnataka and in Madhya Pradesh near Lametaghat on the banks of the Narmada provided a good source of kaolin. Objects made of this material have been found at Tripuri (Dikshit, 1955 : 41), Kondapur (ibid.), Bhokardan (Deo and Gupte, 1974 : 83) and Brahmapuri (Sankalia and Dikshit, 1952 : 61). The introduction of kaolin also led to the development of sculpture by using the double-mould technique. This was an innovation as terracotta art had hitherto been little known in the western Deccan owing to the unsuitability of the black soil for fashioning terracotta figurines. Kaolin figures have been found at sites like Paithan, Nevasa, Kondapur and Ter (Dhavalikar, 1975–6a : 63).

In the Sātavāhana period metal, i.e., iron and copper, was used not only for tools and implements as had been done so far, but for utensils and other objects as well. Two copper vessels were found in the caves at Pitalkhora and belonged to a period when the caves were in occupation (Deshpande, 1959 : 90), while the middle phase at Kanheri was associated with the building of furnaces (*IAR, 1969–70* : 22), possibly suggesting smelting at the site. Iron was used for ladles, bowls, pans and lamps at Bhokardan (Deo and Gupte, 1974 : 174), Nevasa (Sankalia et al., 1960 : 424–40), Kaundinyapur (Dikshit, 1968 : 113) and Maheshwar (Sankalia et al., 1958 : 211–15). Objects of copper included ornaments, antimony rods and small pots as at Bhokardan (Deo and Gupte, 1974 : 184), Nevasa (Sankalia et al., 1960 : 409–22), Prakash (Thapar, 1967 : 121), Maheshwar (Sankalia et al., 1958 : 206–10), and Kaundinyapur (Dikshit, 1968 : 113). Ornaments were also made of gold (Sankalia et al., 1960 : 423) and lead (ibid. : 440; Thapar, 1967 : 128; Sankalia et al., 1958 : 210), though these are not recovered frequently. Another rare object is a fragmentary silver stand from Nevasa (Sankalia et al., 1960 : 440).

Inscriptions in the western Deccan caves refer to donations made to the Sangha at Junnar and elsewhere consisting of plantations of *jambu*, mango and *karañja* trees. Kauṭalya has an interesting bit of information on the use of these fruits:

> One of the following, viz. sugarcane juice, jaggery, honey, treacle, the juice of *jambu* fruit and the juice of *panasa* fruit, infused with a decoction of *meṣaśṛṅgī* and long pepper, kept for one month, six months or a year (and then) mixed with *cidbhiṭa* (kind of melon), *urvāruka* (variety of cucumber) sugarcane stalk, mango fruit and myrobalan or unmixed (with these) constitute the group of fermented juices' (Kangle tr., *Arthaśāstra*, II.15.17).

The cultivation of these fruit trees in plantations would obviously indicate the manufacture of 'fermented juices' on a large scale. Dated to the second century A.D., Book II of the *Arthaśāstra* refers to the production and manufacture of several commodities which formed items of export from the western Deccan ports under the Sātavāhanas. Thus there is mention of trade in liquor (II.25), weaving and spinning centres (II.23), centres for the production of metal objects (II.12) and different kinds of forests including plantations of trees producing timber, bamboo and flowers as materials for dyeing.

The uniformity of small finds at several sites in the western Deccan around the beginning of the Christian era indicates a widespread and extensive trade network. Equally interesting is the similarity between the material culture of the western Deccan and north India, in sharp contrast to sites further east and to the south. One such object of similarity is the votive tank (Figure 4.6). In India, votive tanks are believed to have been introduced by the Śakas or Parthians, the widely prevalent type being either rectangular or square, the circular type having been found at a few places only including the earlier examples from Bhir mound, Taxila. The distribution network of votive tanks extends from Taxila in the north to Chirand in the east and Kolhapur in the south; their occurrence in the peninsula being restricted to a few stray specimens from Nagarjunakonda and a doubtful one from Arikamedu (Desai, 1981). Though the general time-bracket for their use ranges from the third–second century B.C. to the fourth century A.D., the majority belong to the first three centuries of the Christian era. Among the important

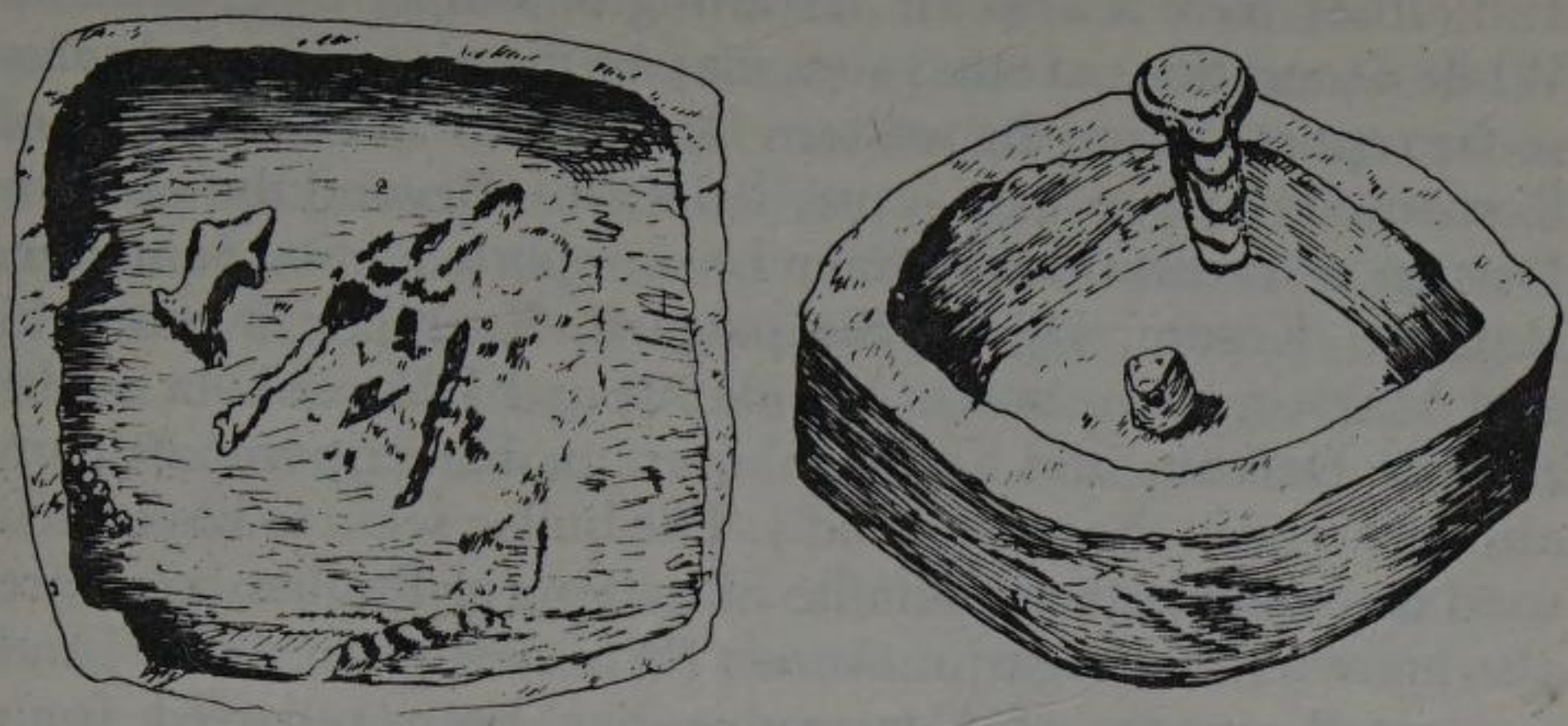


Fig. 4.6. Votive tanks from Kolhapur and Ter (Dikshit, 1968, pl. LV)

findspots of these votive tanks are: Taxila (Bhir mound and Sirkap), Ahichhatra, Hastinapura, Purana Qila, Sonkh, Sanghol, Sambhar, Bairat, Rairh, Ahar, Besnagar, Ujjain, Bhita, Masaon, Rajghat, Chirand, Rajgir, Navdatoli, Shamlaji, Devnimori, Nagar, Nevasa, Paunar, Sopara, Bhokardan, Kaundinyapura, Ter, Brahmapuri (ibid.), and Deulgaon Raja in district Buldhana (*IAR, 1981–82*, in press). It has been suggested that these were possibly linked with the cult of the mother goddess in her Hellenised-Parthian form (Desai, 1981).

Another extensive cult was that of the nude goddess, locally known as Lajja-Gauri, and indicated by the occurrence of terracotta or stone plaques depicting the often headless goddess with a lotus in place of the head. These plaques have been found from the first century A.D. at sites in the Yamuna valley such as Kausambi, Bhita, Jhusi; in Gujarat at Kannad, Kavi and Amreli; and in the Deccan at Nevasa, Bhokardan, Paithan, Ter, Kondapur, Yelleswaram and Nagarjunakonda. The stone plaque from Nagarjunakonda depicts the torso of the goddess in the shape of a *ghaṭa* and bears an inscription of the third century A.D. which records that the plaque was offered by a queen whose husband and sons were alive (Desai, 1981b).

These similarities are by no means restricted to ritual objects alone. Clay bullae occur extensively in early historical levels in the time-bracket of *c.* 300 B.C. to A.D. 200, having been found in the Mauryan levels at Taxila. These small circular clay tablets are decorated with geometric, floral, animal or human motifs

and either have a loop for threading or simply a perforation. While decorations at other sites may be more varied, the bullae so far reported from the western Deccan are close imitations of Roman coins (Deo and Gupte, 1974 : 76). Beyond the western Deccan terracotta bullae have been reported from Sambhar, Rajghat, Kosam, Ujjain, Sisupalgarh, Kashipur, Kausambi and Masaon in the north; Kondapur and Dharanikota in the eastern Deccan; and at Kanchipuram, Kaveripumpattinam and Uraiyur in the south (ibid.). The bullae seem to have been used as ornaments as metallic imitations of Roman coins are also known from Nagarjunakonda (Wheeler, 1955 : 181–2) and a pierced aureus of Commodus has been reported from Chakerbheda in the Bilaspur district of Madhya Pradesh (Dikshit, 1954 : 18). A stone mould for casting metallic bullae was found at Besnagar (Deo and Gupte, 1974 : 76).

Another mode of adornment that seems to have been widely used is the ear-plug or disc type of ear ornament which was cylindrical in shape, had concave sides and a thinner middle section (Figure 4.7). Semi-precious stones were predominantly used for the purpose, though similar ornaments in ivory, bone

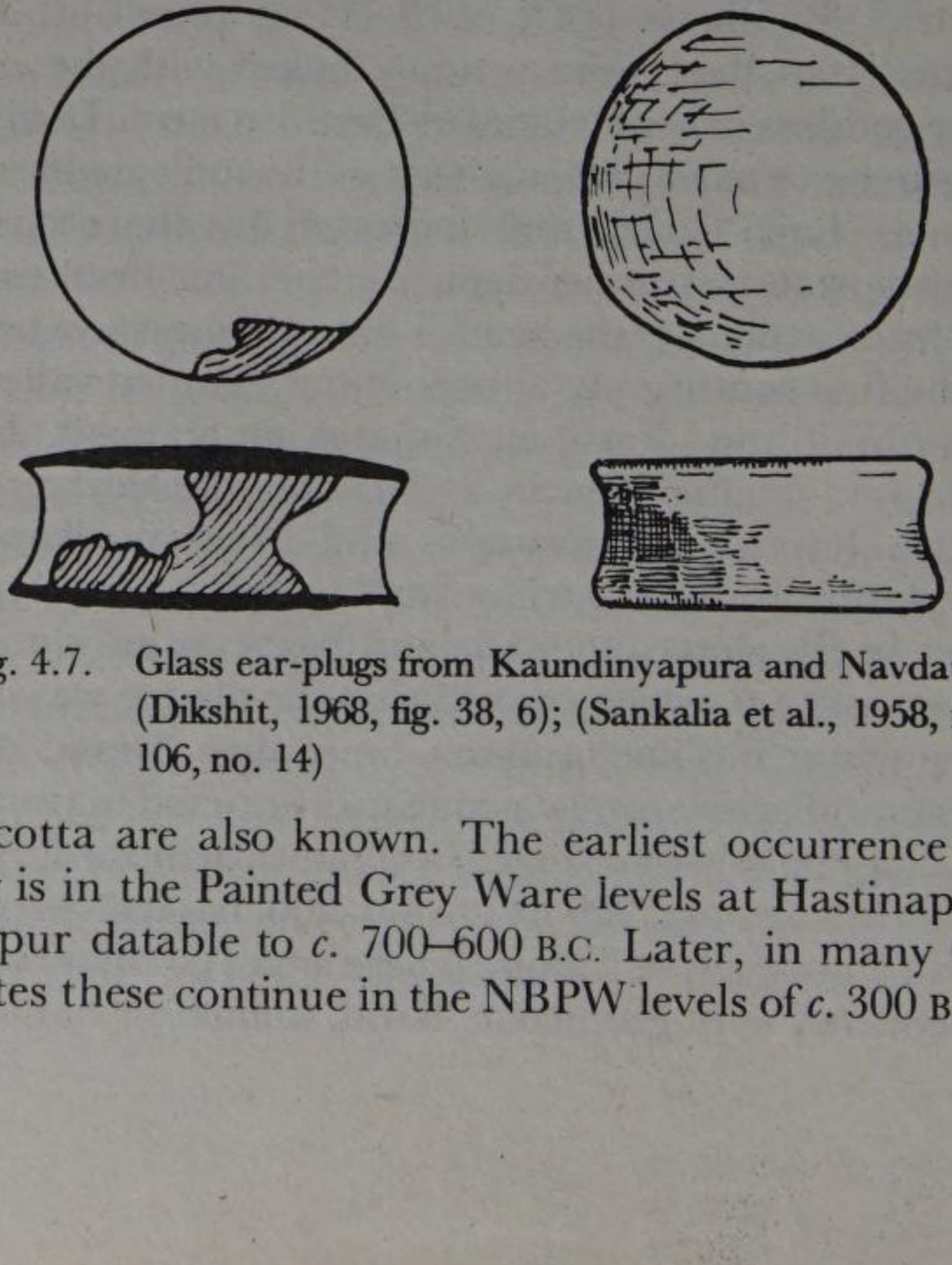


Fig. 4.7. Glass ear-plugs from Kaundinyapura and Navdatoli (Dikshit, 1968, fig. 38, 6); (Sankalia et al., 1958, fig. 106, no. 14)

or terracotta are also known. The earliest occurrence of the ear-plug is in the Painted Grey Ware levels at Hastinapur and Alamgirpur datable to *c.* 700–600 B.C. Later, in many Ganga valley sites these continue in the NBPW levels of *c.* 300 B.C. and

after, their presence in the western Deccan and central Indian sites being associated with Early Historical contacts and the spread of the NBPW (Margabandhu, 1978 : 5). The list of sites yielding polished ear ornaments of semi-precious stones in central India and the western Deccan is indeed large and includes Kayatha, Nagda, Ujjain, Rairh, Prabhas Patan, Bahal, Nasik, Nevasa, Kaundinyapur, Brahmapuri, Kondapur, Paithan, Ter and further south at Maski and Piklihal (ibid. : 4).

The distribution pattern of crescent-shaped ear ornaments is a little different from that of ear plugs. As the name suggests, these take the shape of a crescent with a gap between the ends of the loops. Made of terracotta, these occur extensively at Sātavāhana sites in central India, the western Deccan and the south-east coast. Elsewhere specimens are scarce, gold ear ornaments having been found at Vaisali and Taxila in the Mauryan levels (ibid. : 8).

The widespread distribution of certain distinctive types of beads has already been referred to and mention has also been made of the prevalence of legged querns ideal for grinding spices. Three types of querns are known from archaeological records—the saddle quern (Figure 4.8), the legged quern (Figure 4.9) and the rotary quern (Figure 4.10). The first category was in use in the protohistoric period. In the beginning flat stones were used for the purpose, which later became plano-convex and in the Early Historical period quite cylindrical (Sankalia, 1974 : 407). In legged querns the base is provided with four short legs and although some examples have been reported from Harappa, the type appears to be most commonly associated with the Early Historical and later periods. The distribution of legged querns is very extensive and includes several sites in north India and the western Deccan (Dikshit, 1955 : 107–8). So far only two legged querns have been reported in the Megalithic context—one at Raigir in the former Hyderabad State (ibid.), and the other at Borgaon in Vidarbha, now in the Deccan College Archaeological museum. A panel from the eastern gateway at Sanchi shows a legged quern being used (ibid. : 106).

The most evolved form of hand-operated querns was the rotary quern which consisted of two parts : a lower and an

Fig. 4.8.

Fig. 4.9.

Fig. 4.10.

Fig. 4.8. Saddle quern from Navdatoli (Sankalia et al., 1958, fig. 115, no. 12)
Fig. 4.9. Legged quern from Maheshwar (Sankalia et al., 1958, fig. 115, no. 7)
Fig. 4.10. Rotary quern (Sankalia et al., 1960 : 484, fig. 202)

upper stone, the latter called the hopper. A heavy rotary quern with transverse holes for a two-way handle is the earlier type and precedes those with a vertical handle embedded in a socket on the rim. The first type has been found almost all over northern India and the western Deccan including stray specimens at Nagarjunakonda in deposits of the first century B.C. to the second century A.D.; the second type is later and has continued to the present day (Sankalia, 1974 : 375–6). While Dikshit (1968 : 25–40) argues for an indigenous origin for the first type on the grounds that heavy wooden rotary querns are still used by certain tribal groups of Madhya Pradesh and Orissa, Sankalia (1974 : 375–6) is of the view that these were introduced into the subcontinent by the Indo-Greeks.

So far the discussion has been primarily on small finds, but these similarities extend to structural features also, a typical example being that of ring-wells. Wells have been found at Harappan sites but have not been reported so far from other protohistoric sites or from sites of the Iron Age. After this interval their presence is again noticed from the middle of the

first millennium B.C., almost co-eval with the emergence of the NBPW and it is at this time that ring-wells also occur. Ring-wells, so called because of the lining with terracotta rings and variously identified as soak-pits or draw wells, show a vast area of distribution. The maximum occurrence of ring-wells is in the Ganga–Yamuna *doab* with a lesser concentration in the Taxila region in the north and in the western Deccan. Their presence in central India and along the east coast is sporadic. The earliest examples do not go back to a period earlier than the fifth–fourth centuries B.C. Their use continued in subsequent periods and the tradition lingers on in some parts of the country (Pande, 1981).

Archaeological records thus show close similarities in several features of the material culture between the western Deccan and north India, especially in the urban centres. In contrast, small mounds, particularly in the Marathwada region yield only sherds of pottery and microliths, the latter associated with hunting–gathering groups. It would be interesting to compare this material evidence with that available from inscriptions in the next chapter and to study how far these may be attempts by a socially 'inferior' group to adopt the life-style of a socially 'superior' group for greater acceptance—a phenomenon indicated by anthropological research in modern societies.[6]

The distribution of ceramic industries could provide invaluable evidence of local trade networks, but the detailed cataloguing of pottery types and variations in technique required for such a study is unfortunately lacking. Thus, only general

[6] All along the northern borders of Nepal there are high-altitude zones inhabited by populations who derive a part of their subsistence from trans-Himalayan commerce. One such trading community is that of the Thakalis, who, though drawn into the Tibetan cultural orbit are likely to have been a part of an ethnic group which included other tribes as well. Positioned midway between the Buddhist civilization of Tibet and the Hindu culture prevailing in many of the communities of the middle ranges, they followed their indigenous social system and 'tribal' elements of their religion. This balance changed at the end of the nineteenth century when they began to obtain larger contracts and greater administrative powers which brought them in contact with the higher Hindu castes (*varṇa*). On account of their life-style, however, the Thakalis, no matter how wealthy could not establish satisfactory social relations with the dominant classes of Nepalese society. In order to become more acceptable they started shedding such practices as the eating of yak meat and the drinking of home-brewed beer, and abandoned other outward features of Tibetan culture including dressing in the Tibetan fashion (Fuerer-Haimendorf, 1975 : 132, 299–301).

similarities can be indicated. It is difficult to talk in terms of a characteristic Sātavāhana ceramic industry restricted to the western Deccan as no such label can be applied. 'The black-and-red ware of Prakash belongs to an iron-using assemblage and its use well preceded the appearance at the site of NBPW. It is entirely wheel-thrown and shows a slight lustre .... The shapes represented are very rudimentary and comprise the bowl, the dish and the small-sized vase' (Thapar, 1967 : 69). The black-and-red ware which was contemporary with the NBPW at Ujjain and Tripuri continued to be used in the western Deccan right through to the Sātavāhana period. Excavations in Vidarbha have shown that the Early Historical black-and-red ware is coarser in fabric and quite distinct from the Megalithic ware of the same name. Together with this, several other nondescript ceramics were in use such as the coarse red ware, black-slipped ware and the black ware. An innovation of the period, however, was the kaolin ware found at Tripuri (Dikshit, 1955 : 41), Bhokardan (Deo and Gupte, 1974 : 83), Brahmapuri (Sankalia and Dikshit, 1952 : 61) and Nevasa (Sankalia et al., 1960 : 407).

In Kathiawar, a distinctive pottery of fine fabric and a bright red surface called the Red Polished Ware, came into use in the first century A.D., its exclusive shapes being the sprinkler and the *surāhī*. This ware gained wide currency and has been found at several sites in the western Deccan such as Bharuch, Jokha, Dhatva, Kalyan, Nasik, Bahal, Kaundinyapura, Ter, etc. (Appendix III).

That there was a well-established separate communication network linking the entire east coast, including northern Sri Lanka, can be demonstrated on the basis of the distribution of the Rouletted Ware, the most distinctive ceramic associated with the Early Historical period (Begley, 1983 : 462). This network extended from Korkai in the south to Tamluk and Chandraketugarh in the north and included inland centres along the major routes, e.g., Maski, Amaravati, etc. (ibid.). In the western Deccan, Rouletted Ware is scarce and is limited to a few sherds from Nasik (Sankalia and Deo, 1955 : 69), a single sherd from Nevasa (Sankalia et al., 1960 : 280) and four sherds from Ter. As distinct from the Coromandel coast, the Malabar coast had a network of its own indicated by the distribution of

the Russet-coated Painted Ware. The concentration of this ware was in the area south of the Krishna (Thapar, 1957 : 73) and extended as far as Uraiyur, though it is generally absent on the Coromandel coast. The western Deccan was peripheral to this network and only two sherds each of this ware have been found at Nasik (Sankalia and Deo, 1955 : 84) and Nevasa (Sankalia et al., 1960 : 279), and one sherd at Kaundinyapura (Dikshit, 1968 : 66), though it has been reported from Kondapur in the eastern Deccan. The ceramic evidence would then indicate that the predominant communication network in the western Deccan extended from the Kathiawar peninsula.

This increasingly complex nature of manufacture and trade would require an equally versatile monetary system which would facilitate both internal and external exchange.

The *Periplus* (sec. 14) states that some ships from Bharuch exchanged their cargoes while sailing along the Arabian coast. Elsewhere (sec. 47) it mentions that ancient coins 'stamped with Greek letters—the inscriptions of Apollodoros and Menander who reigned after (the time) of Alexander' were circulating in Bharuch. Later (sec. 49) it refers to gold and silver coins which were imported into Bharuch and exchanged at a profit. The *Jātakas* also speak of a combination of monetary transactions and barter in the economy, and a similar situation may have existed in external trade as well.

From time to time Roman coins have been found at different sites in the subcontinent though their occurrence in the western Deccan has so far been infrequent. In 1840 a hoard was discovered near Sholapur which included the aurei of Severus Antoninus Commodus and Geta (*Indian Antiquary*, II, 1873 : 241–2). An aureus of Septimus Severus was also found at Waghoda in Dhule district while three other finds of Roman coins have been confined to the Vidarbha region. The first was from Sampewada in Bhandara district and consisted of two gold coins, one of Commodus and the other believed to be a forgery; no details are available about the second hoard from Tadali, again in district Bhandara; and the third containing eleven gold coins of Augustus and Nero was found at Adam, district Nagpur (Kawadkar, 1972 : 243–7). Roman denarii were recovered during the excavation at Vadgaon-Madhavpur (Sundara, 1981 : 91) and a gold coin of Augustus was found at

Kondapur (Yazdani, 1941 : 180). Unfortunately no hoard of Roman coins has yet been found at Bharuch; only a single coin has been reported so far (Wheeler, 1955 : 195).

Compared to the western Deccan, finds of Roman coins are more numerous in the eastern Deccan and are scattered in the districts of Bijapur, Cuddapah, Guntur, Krishna, Nalgonda and Visakhapatnam (Gupta, 1965 : 43–5). A hoard from Nasthulapur, district Karimnagar, yielded thirty-nine Roman and eight silver punch-marked coins, the former belonging to Augustus and Nero (Gupta, 1957 : 1–4). Two more Roman aurei of Nero and one of Faustina the Elder were found at Nagarjunakonda (*IAR, 1956–57* : 38). One gold coin of Augustus with holes on top suggesting its use as a pendant was unearthed in the excavation at Kudavelli, district Mahbubnagar (Ghosh and Ismail, 1980 : 11). Recent excavations at Peddabankur and Dhulikatta have also yielded Roman coins (Gururaja Rao, 1978 : 62, 66).

Gupta has interpreted this paucity of Roman coin finds in the western Deccan compared to the eastern Deccan and south India to indicate that direct trade relations with Rome were confined to a short period of fifty years in the second century A.D. between the reigns of Antoninus Pius (A.D. 138–61) and Septimus Severus (A.D. 193–211). Prior to this, he continues, Roman traders obtained their requirements from Indian merchants calling at the ports of the Persian Gulf, the south coast of Arabia and the Red Sea coast of Africa (1969 : 169–80). Warmington suggests that there was a 'deliberate exportation' of Roman money to India to create a Roman currency there (1974 : 274), while Wheeler accepts that Roman coins may have been used not as currency, but as bullion to be weighed out in exchange for goods or silver and gold ornaments (1955 : 167).

The paucity of Roman coins in the western Deccan is a rather complex question which needs to be studied in some detail. The denarius was the main silver coinage of the Republican period, the gold aureus being an infrequent issue. As soon as Augustus established the empire and restored peace in 31 B.C., he reorganized the coinage—gold coins were issued regularly and the gold aureus was valued at twenty-five silver denarii. Nero (A.D. 54–68) debased the currency, lowered the weight of gold and silver coins and reduced the fineness of the latter. In India,

pre-Augustan issues are rare and a majority of the coin finds of Augustus and Tiberius are concentrated around Coimbatore, within a radius of about fifty kilometres from the beryl mines at Padiyur. As against this, coins found in the eastern Deccan belong to later emperors and are dated to the second century A.D. This evidence has been accepted by Gupta to indicate a shift in Roman trade from south India to the eastern Deccan in the second century A.D. (1965 : 45–50).

An analytical study of Roman coins found in India shows a preponderance of denarii, a total of 5,400 denarii to 800 aurei (Raschke, 1978 : 665). Two prominent features of these hoards are: the newness of the coins and the predominance of the issues of Augustus and Tiberius (Miller, 1969 : 237). Adhya (1966 : 133–4) has convincingly countered Sewell's arguments (1904 : 623–37) regarding the decrease in Roman trade after Nero by indicating that post-Nero coins could not have been used for external trade on account of the debasement of the currency. Raschke has shown that Roman coins in India do not have much chronological significance nor can they be used to indicate a diminution in Roman trade after Nero. The commercial hoards of denarii and aurei found in India in no way reflect the coinage in circulation at this time in Egypt from where most of the coins were shipped. The Roman conquerors of Egypt permitted the continued circulation of Ptolemaic coinage and almost all the papyri attest only the use of Alexandrian tetradrachms till A.D. 296 when Diocletian gave Egypt the same coinage as the rest of the Empire. There is however some conflicting evidence which indicates the existence of denarii and aurei in Egypt at this time. Issues of Roman coinage were primarily connected with military activity and it appears that provincial garrisons were paid largely in the coins collected as taxes in the province. Bankers and money-changers in Egypt would have expended considerable efforts in the collection of coins of Augustus and Tiberius which were preferred for trade and may have been substituted for gold or bullion in cases of shortage (Raschke, 1978 : 668–9).

It would seem that a shortage of these coins was at times also overcome by substituting imitations. At Akkenpalle in the district of Nalgonda, a pot containing 1531 silver coins, broken pieces of ornaments, and some strips of silver was found. Pre-

dictably, a majority of the coins belonged to the reigns of Augustus and Tiberius and included as many as fifty-five imitations (Gupta, 1965 : 65). Gupta reasons that Roman silver coins could have been used as legal tender in the subcontinent. Incisions were made on the coins to deface the portrait of the Emperor, and as the coins were approximately the same weight as the punch-marked coins (fifty to fifty-four grains) most of them could be countermarked with minute symbols similar to those used on punch-marked coins and introduced into circulation. A similar phenomenon has also been noticed in the Nasthulapur and Eyyal hoards (ibid. : 68). Raschke argues that these imitations were produced in India itself from locally made dies (1978 : 672). If this were the case, it would imply the direct participation of Roman merchants in commercial transactions in the eastern Deccan.

Interesting evidence regarding currency in the third and fourth centuries A.D. is to be found in the inscriptions of the eastern Deccan. Ikṣvāku epigraphs at Nagarjunakonda record donations of *dinaris* and their investment with different guilds. Sircar (1963–4 : 5) explains that *dinari* is derived from the Roman coin denarius, but it is difficult to say whether it meant an original Roman coin or an imitation.[7]

Raschke has suggested that the relative dearth of Roman coins in the western Deccan may be correlated to the degree of urbanization in the two regions (1978 : 670). Thus, as the western Deccan had a large number of urban centres at this time and its indigenous coinage, there was little need to import and circulate Roman coins. Accepting this as a possible factor, it is however felt that the principal difference lay in the nature of trade in the two regions. We have referred to sailing schedules between the Mediterranean and India and have indicated the short duration of halts at the west coast ports. This gives credence to the possibility that the cargo imported by foreign ships halting at the ports of the western Deccan was negotiated and bought by Indian merchants at the ports itself and foreign

[7] Amita Ray (1983 : 33) has used this evidence together with the find of a hoard of coins in a so-called goldsmith's workshop at Nagarjunakonda to suggest that goldsmiths were authorized to mint Roman gold coins or that these were melted for jewellery. A reference to the excavation report (*IAR, 1959–60* : 9) shows that the correlation is unsubstantiated. A hoard of 900 'Ikṣvāku' coins was found in that area, but in a different house.

merchants may not have been allowed to enter into local trade transactions. The transportation and sale of these imported goods may have been handled entirely by Indian merchants. There are indications of strong measures taken by the local political authority to ensure compliance with laws by foreign ships and the diversion of foreign ships from Kalyan to Bharuch under escort (*Periplus* : sec. 52). As local trade in the western Deccan was transacted by means of the Sātavāhana coinage, it is likely that Roman gold and silver may have been used as bullion.

In contrast there is little evidence for an established local currency further south along the Malabar coast and the data indicates greater reliance on barter in exchange relations. As such Roman gold and silver may have been used as high-value coins for procurement of commodities and in local transactions.

The Andhra region or the eastern Deccan went through a different process of economic growth. Though the earliest urban centres developed in the lower Krishna valley, owing to the uncertainties of the sea routes as discussed by Kauṭalya, commercial traffic followed the trans-peninsular land routes connecting the eastern Deccan to Ter, Paithan and Bharuch. This explains the importance of the western Deccan under the early Sātavāhanas. With expansion in the coastal traffic around the southern tip of the peninsula and the growth of trade between south-east Asia and the west, the east coast ports would have become important ports of call. Their significance would have increased further owing to the unstable political conditions in the western Deccan resulting from the confrontation between the Kṣatrapas and the Sātavāhanas. In the post-Gautamīputra Sātakarṇi period, Sātavāhana inscriptions are found for the first time in the eastern Deccan and bilingual silver portrait coins are issued, indicating attempts by the state to integrate newly-acquired areas. Such a step may have become imperative in view of the *yavana* presence and the large number of Roman silver coins in circulation in the eastern Deccan.

Pliny in his *Natural History* (XII.xli) states that 'by the lowest reckoning India, China and the Arabian peninsula take from our empire 100 million sesterces a year.' This has been taken to indicate a gradual drainage of the Empire's gold resources,

which threw the Roman monetary system into a crisis. The figures quoted by Pliny have been questioned on account of several factors. The use of imported spices was widespread in the Roman Empire; they found their way to relatively minor places and were extensively used in drugs, perfumes, cooking and religious services, as antidotes for poisons and as ingredients in ointments (Miller, 1969 : 2). Even if Pliny's price list is accepted, it is unlikely that the original sum paid to the producers was high. Prices in Rome may have been exorbitant because of the high import duties, cost of transportation and the risks involved. The much better-documented medieval spice trade suggests that tremendous price fluctuation could occur because of destruction of a convoy, warfare, piracy, failure of a convoy to arrive in time to catch the last ship of the season, etc., and there is no reason to suppose that prices remained stable in antiquity and were not affected by these variables (Raschke, 1978 : 670).

The figures quoted by Pliny have been attributed considerable credibility on account of his position as 'financial advisor' to Vespasian and it is often assumed that they refer to the export of coins to China and India. Both these views are, however, erroneous. A friend of Vespasian, Pliny died as commander of the fleet at Misenum—an important post, but military rather than financial. Another serious objection is that both Roman bureaucratic practice and the surviving records from Egypt itself indicate that it would have been impossible for Pliny to obtain any accurate figures for the annual quantity of the balance-of-payments deficit in Rome's trade with the East (Raschke, 1978 : 636). Though tax records were more carefully kept in Egypt than in other provinces and a good deal of evidence is available about transit tolls, accounting practices and customs regulations, yet nowhere is it indicated that anyone kept a record of the coinage (ibid.)

Pliny's figures have been questioned from another point of view also and it is imperative to quote at some length here.

> If the figures mentioned by Pliny in this connection are authentic, this amount would have corresponded to about 15,000 pounds of gold. At that time the annual budget of the Roman state amounted to about four milliards sesterces. One might suppose that average annual national income could not possibly be less than forty milliards

sesterces. If these dangerous and hypothetical figures are correct, the value of the outflow of gold represented the fortieth part of the state's budget and certainly much less than the four hundredth part of the total income of the Empire . . . Considering the relatively small circles for which it (the luxury trade) was destined, the whole quantity could not even then have cut perceptibly into the economy in general, the more so as at the very close of the fourth century gold was circulating in an abundance to which hardly anything equal can be found in previous centuries. This shows that the so-called drainage resulting from the oriental trade was in no way ruinous (Bernardi, 1970 : 22–3).

Even though the Oriental trade may not have been substantial economically for Rome, the prosperity that came in its wake provided a fillip to the development of the western Deccan. Coinage is an indicator of internal exchanges, the magnitude of commercial transactions and the state of the economy. During the Sātavāhana period, several local currencies seem to have been in circulation in the western Deccan. The discovery of punch-marked coins in association with Roman coins and of coin moulds for manufacturing these together with Sātavāhana objects at Kondapur confirms this assumption (Chattopadhyaya, 1977 : 101). The Sātavāhana site at Dhulikatta also produced a rectangular mould with sixteen matrices for the manufacture of punch-marked coins (Gururaja Rao, 1978 : 61). Numerous hoards of punch-marked coins have been found all over the western Deccan (Gupta, 1955 : 14; 1970). Unfortunately, in the absence of precise dating methods, it becomes difficult to indicate how many of these belonged to the Sātavāhana period. This tradition of manufacture was, however, adopted for Sātavāhana coins in the Vidisha region and punch-marked copper coins with the legends *rāño siri Sātakaṇisa* and *raño siri Sātasa* have been found at Vidisha, Tripuri and Tumain (Bajpai, 1981 : 302).

Owing to the hostility between the Sātavāhana kings and the Kṣatrapas, certain parts of the western Deccan underwent frequent political change and hoards of silver Kṣatrapa coins have been found in the interior regions of the western Deccan, such as Ranjangaon, district Pune (*IAR, 1974–75* : 65), Karad, district Satara, and Shirwal, district Junnar (Gupta, 1956 : 220–1). Gautamīputra Sātakarṇi is the only Sātavāhana king who circulated silver issues of the Kṣatrapas after restriking

them, as is evident from the Jogalthembi hoard. Restriking of coins was by no means restricted to the Sātavāhanas or to silver coins. A copper coin of the Sātavāhanas found at Akota was restruck with the legend *rajno Mahākṣatrapasa* (Trivedi, 1953), while a copper issue of Nahapāna from Ajmer has the counter-struck reverse symbols of Gautamīputra (Sarma, 1980 : 108). 'Usually restrikes occur when a state acquires large numbers of coins of a neighbouring state whose issues are very plentiful and enjoy a wide circulation, and restrikes these due to a shortage of metal' (Laing, 1969 : 39).

As compared to the Kṣatrapas, the finds of Kuṣāṇa coins are rare. A copper coin of Wima Kadphises was found at Aurangabad (Ranade, 1964 : 228), while eight copper coins of Huviṣka were recovered from Katangi, district Bhandara (*IAR, 1973–74* : 48).

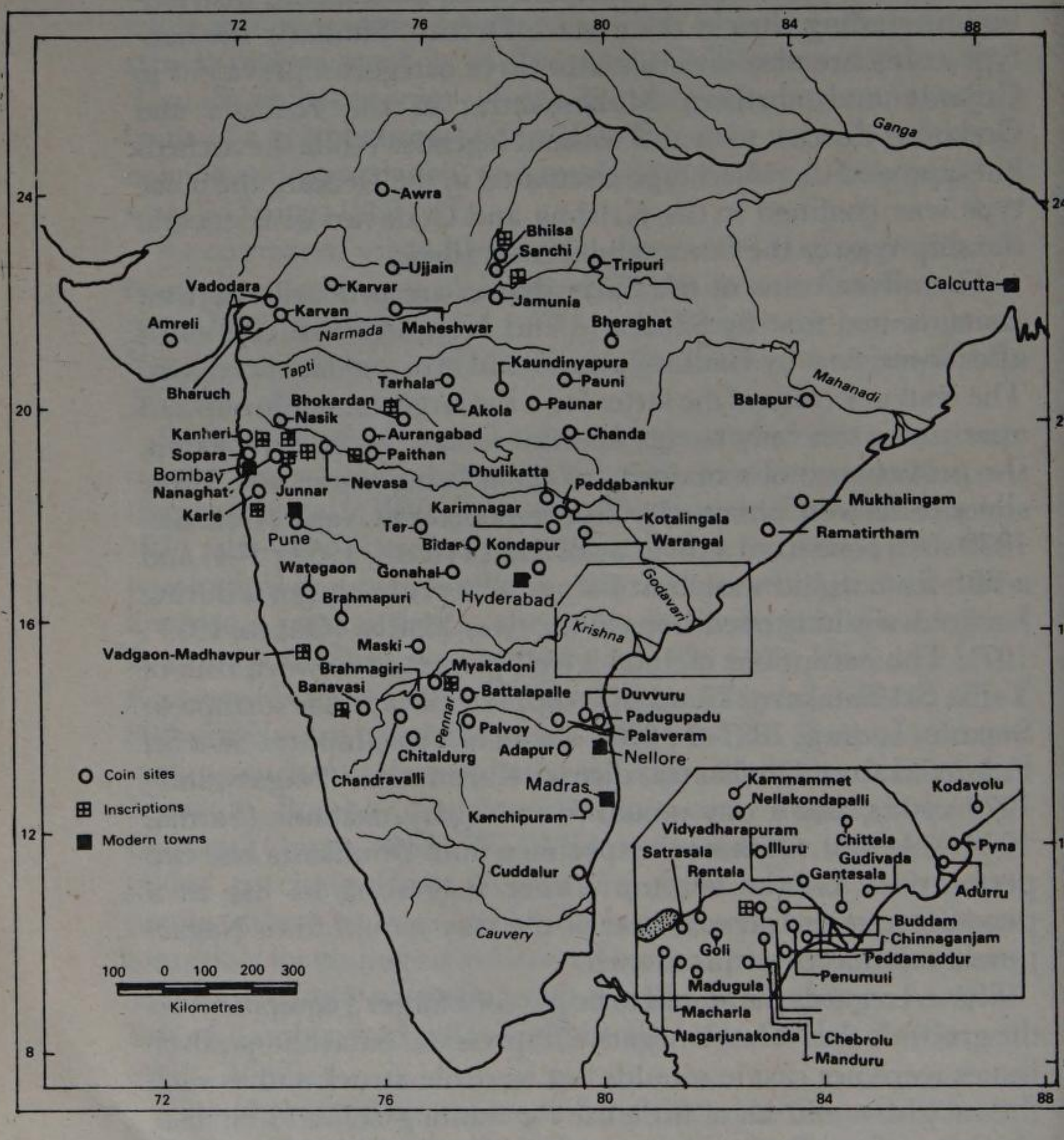
Apart from the regular issues, a large number of uninscribed copper cast coins have been found in the excavations at Nevasa (Sankalia et al., 1960 : 161) and Bhokardan (Deo and Gupte, 1974 : 19–72). These have been ascribed to the Sātavāhanas on typological grounds. Similarly, clay imitations of Roman coins are also a regular find at sites such as Bhokardan (ibid. : 75), Brahmapuri (Sankalia and Dikshit, 1952 : 97), Karad (ibid.), Kausan (*IAR, 1965–66* : 28) Kondapur (Yazdani, 1941 : 179–80) and Nevasa (Sankalia et al., 1960 : 161). A stone mould for making such imitations is in the collection of the Prince of Wales Museum, Bombay, and is said to have come from Palanpur in Gujarat (Gupte, 1965 : 77). While some of these, especially the gilded specimens from Nevasa may have been used as ornaments, others were probably used as money. The use of flimsy materials for coinage is reinforced by the fifth-century evidence of Buddhaghoṣa suggesting that *māṣakas* were made not only of bits of bamboo and palm-leaf but also of lac and gum (Sircar, 1979 : 46–7).

The characteristic coinage of the Sātavāhanas was of lead, copper and potin—an alloy of copper, zinc, lead and tin (Map 4). No gold coin has so far been reported and silver issues are rare. The coin blanks were cast and the devices and legends were die-struck on these blanks (Sarma, 1980 : 56–7). As analysed by Gupta (1972 : 41–61), Sātavāhana coins have a marked regional distribution. The majority of the coins have an ele-

phant on the obverse, but on the basis of the reverse symbols, they may be classified into two groups: those with a tree motif as the prominent reverse symbol found in north-western Deccan, e.g. at Nasik and Nevasa; and those with the Ujjain symbol on the reverse, which have a comparatively widespread distribution, including sites in the eastern Deccan. Similarly the lion-type coins are also divisible into three categories prevalent in Gujarat and northern Maharashtra; in the Krishna and Godavari district; with and without legends. While the arched-hill type and the wheel type circulated in the Deccan, the horse type was confined to the Krishna and Godavari districts and the ship type to the Coromandal coast (ibid.).

The silver coins of the Sātavāhanas are primarily portrait coins, issued first by Sātakarṇi and Nāyanikā and continued after some time by Gautamīputra Sātakarṇi and his successors. The restruck coins of the latter form the largest single group and apart from this only twenty specimens have so far been found, the provenance of a majority of them being uncertain. Three silver coins were obtained from a river diver at Nasik (Gokhale, 1978 : 13), one from a diver at Bhilsa (Trivedi, 1952 : 1–4) and a fifth from a gold washer at Balpur who probably got it during her gold-washing operations in the river Madha (Gupta, 1959 : 107). The exceptions include a well-preserved unworn coin of Yajña Śrī Sātakarṇi found in a copper casket inside a stupa at Sopara (Indraji, 1881–2 : 305); a coin of Vāsiṣṭhīputra Śiva Śrī Puḷumāvi from Dhulikatta, district Karimnagar (Nagaswamy, 1979 : 105); and a clay mould from Nagarjunakonda (Sarma, 1973 : 89–106). Of these the specimen from Dhulikatta had two perforations on the left top corner suggesting its use as a pendant and the genuineness of the clay mould from Nagarjunakonda has been questioned.

Shastri regards the mould to be part of a forger's equipment on the grounds that it has a negative impression. Sātavāhana silver issues were not cast in moulds but were die-struck and as such the mould would be of little use for minting coins. A circular clay piece from Paithan has a positive impression of the reverse die of the silver coin of Vāsiṣṭhīputra Puḷumāvi and has been regarded as a proof piece (Shastri, 1980 : 115–17). Thus, on reviewing this evidence, it would seem that the bilingual silver coins had a limited circulation and were more in the nature of



Distribution of Sātavāhana coinage

commemorative issues. It is difficult to agree completely with Shastri (1976 : 19) who suggests that the Sātavāhanas issued bilingual coins with the object of announcing their victories in the Andhra region to their subjects in the western Deccan, as very few coins have been found in situ in the latter region. One of the objectives of issuing silver coins may have been the integration of the newly-conquered regions of the eastern Deccan.

This by no means suggests that silver coins were not in circulation during the Sātavāhana period. We have shown that silver punch-marked coins continued well into the early centuries of the Christian era. Besides, the silver issues of the Kṣatrapas were also prevalent in the western Deccan at this time. The inscriptions at cave sites record investments of several thousand *kārṣāpaṇas* (*kāhāpanas*) in various guilds and mention gifts in money to monastic establishments. A Nasik inscription of Uṣavadāta specifically refers to a gift of 70,000 *kārṣāpaṇas* 'each 35 making a *suvarṇa*, a capital therefore of 2,000 *suvarṇas*' (Senart, 1905–6 : 82–5). Altekar is of the view that the *kārṣāpaṇas* and the *suvarṇa* mentioned in this inscription refer to the silver coin of Nahapāna and the gold coin of the Kuṣāṇas respectively. The metrology of the two coins indicates a ratio of 9 : 1 between the prices of gold and silver. In Persia, the ratio was 13 : 1 and according to the *Periplus* it was profitable to exchange silver for gold in India (Altekar, 1940 : 45).

There are no pure silver ores in India and the metal is obtained from argentiferous galena, basically an ore of lead in which silver occurs as an impurity. Galena is found in commercially exploitable quantities at Metri in Bellary district and sparsely at several places in the eastern Deccan. The most important deposit is at Zawar in Udaipur district (*The Wealth of India* : 505). Chemical analysis of a few punch-marked coins has indicated the presence of lead and the use of copper for alloying (Bharadawaj and Mishra, 1968 : 244). Apart from the minting of silver punch-marked and lead coins, these ores were probably used for a variety of purposes in the Early Historical period, such as for the making of lead ear-ornaments and antimony rods. The major mining areas of copper in India are confined to the Khetri belt in Rajasthan, the Singhbhum belt in Bihar and the Guntur belt in Andhra Pradesh (Watt, 1972 : II,

647). Apart from the local availability of these ores for coinage, a certain amount of tin, lead and copper may have been imported as referred to in the *Periplus* (sec. 49).

Opinions diverge over the question of the right to mint coins in ancient India. Smith (1972, reprint : 133) propounded the view that the punch-marked coinage was a private issue of guilds and silversmiths minted these with the permission of the ruling powers. Bhandarkar (1913–14 : 220 f), on the other hand, established that the coins of particular regions have marks occurring in certain constant and regular groups, hence these coins are state issues. Kosambi (1981a) continued on the same lines and identified punch-marked coins belonging to individual monarchs of the Śaiśunāga, Nanda and Mauryan dynasties or as the independent local currency of Kosala.

Scholars who favour the control of the state cite the *Arthaśāstra* (II.12.24) which decrees that 'coins are to be manufactured by the *lakṣaṇādhyakṣa* and four silver coins of the denominations of 1 *paṇa*, 1/2 *paṇa*, 1/4 *paṇa* and 1/8 *paṇa* each containing eleven parts of silver, four parts of copper and one part of some hardening alloy are mentioned. Copper coins include the *māṣaka* (1/6 *paṇa*), 1/2 *māṣaka*, 1 *kākaṇī*, (1/4 *māṣaka*) and 1/2 *kākaṇī*, each containing three parts of copper and one part of a hardening alloy. There is no mention of gold coins in the *Arthaśāstra*, though some scholars suggest a reference to them in the phrase *rūpyasuvarṇam* (II.14.1, Sircar, 1968a : 78–9). From the context it would seem that this phrase simply refers to gold and silver articles entrusted to a goldsmith for manufacture (Gupta, 1960 : 25–34).

Kauṭalya in his *Arthaśāstra* (II.12.25) also refers to the *rūpadarśaka* or the examiner of coins who was entrusted with the regulation of currency both as a medium of exchange (*vyāvahārikī*) and as legal tender for receipt in the treasury (*kośapraveśyā*). Possibly the first refers to coinage, while the second may be a variation of the later day *huṇḍī* system. The *rūpadarśaka* was also made liable to punishment if he were to upset an established currency (*sthitā paṇayātrā*) or to allow an irregular currency to circulate (IV.1.44–6). These verses taken together with an earlier statement (II.12.26) that 'the *rūpadarśaka* should fix a coining fee (*rūpikam*) of eight per cent, a commission of five per cent, an inspection fee of one-eighth per

cent and a penalty of twenty-five *paṇas* for those who manufacture, sell and examine in other places', seem to suggest, among other things, that more than one currency may have been in circulation, though the state retained the right to sanction and to authorize it. Besides, the levying of a coining fee can only be justified if private individuals were involved in the minting of coins. Gupta has tried to explain this by suggesting 'people brought bullion to the *rūpadarśaku* who exchanged it for ready made coins and charged eight per cent as fee to meet the cost of manufacture, etc.' (1960 : 36).

That the guilds or corporations of traders were empowered to issue coins is attested by the *negama* coins of Taxila, the word *naigamah* referring to *śreṇis* or corporations of merchants (Bajpai, 1963 : 18). Further proof for this view comes in the form of two copper coins bearing the legend '*gadhikānam*' in bold Mauryan characters and obtained from Kausambi and Allahabad (ibid.). The *gandhikas* or dealers in perfume were prosperous at this time as indicated by the large number of donations made by them.

We have referred to the circulation of punch-marked coins during the Sātavāhana period. If minting of coins was under state control, how is it that the inscribed coins of the Sātavāhanas were issued only in cheap metals like copper, lead and potin, while the silver punch-marked issues carried no royal insignia? The question can only be resolved if we accept that punch-marked coins were private issues which continued in use even after the ascendancy of the Sātavāhanas.

When punch-marked coins manufactured centuries ago were in circulation, it seems to us practically impossible to check additions to the old stock by guilds and silversmiths from time to time, especially in view of the fact that the said coins were used all over India while the whole country was never under a single suzerain and often there was no effective administration in many areas' (Sircar, 1968a : 106).

Interesting corroboration of this view comes from a later period. Buddhaghoṣa in his *Visuddhimagga* (437, 515) describes the different reactions of an inexperienced boy, a man from a village and a money-changer to a heap of coins lying on a wooden slab. The boy would only be able to distinguish the different shapes of the coins, while the rustic would also know that coins were as valuable as gems. The money-changer on the

other hand, by handling the coins would be able to ascertain which of them were struck at which *gāma, nagara, pabbata* or *nadī-tīra* and by which *ācariya* or mint master.

The prevalence of more than one currency in a region was not unusual in India and the practice continued till the late medieval period. This practice had its genesis in the theory that no state had the right to close its mints or to say that the currency of a region was either deficient or redundant. This question was settled solely by bankers, traders and merchants. The duty of the state was merely to assay all bullion brought to the mint for coinage and to return the value of the bullion in money (Sircar, 1968a : 273). Thus no less than twenty-six different sorts of gold coins were current in Sivaji's realm, some of which were foreign issues. The system continued in the Maratha country in the later period as well (ibid. 274). This currency was further supplemented by the extensive use of *huṇḍīs* or credit instruments. Revenue officers were always instructed to make use of *huṇḍīs* in transmitting money to the central treasury (ibid. 276). For day-to-day transactions, *dhabhu* or uncoined and unstamped copper pieces were extensively used. This was a private copper currency having no stamp, no bust and no inscription (Sircar, 1979 : 45). In addition to all these was the use of clay and other flimsy materials as tokens of exchange and of course the prevalence of the ubiquitous cowrie shells. The mention of *gaṇḍaka*, i.e. the amount of four cowrie shells in the Mahasthan inscription points to the use of cowries in the Indian market during the Mauryan period as well (ibid. : 53).

The foregoing discussion is in no way meant to indicate the inadequacy of the state with regard to coinage. On the other hand, private issues could only have been minted with the tacit approval of the state and the latter obtained revenue by authorizing their circulation. Unfortunately, there is very little evidence on the location of mints in the Sātavāhana period. Numerous clay coin-moulds along with coins of the Kṣatrapas and the Sātavāhanas were found in the excavation at Kondapur. Of these, there were fifty-four fragments of moulds for casting punch-marked coins, some for Sātavāhana coins and others for Kṣatrapa coins. A few of these were meant for duplicating by the casting process coins which were normally

struck with punches, while other moulds included single coin-discs (Yazdani, 1941 : 180). Other sites which have yielded coin-moulds are Bhokardan and Vadgaon-Madhavpur. At the former site, these included terracotta moulds for punch-marked and Kṣatrapa coins (Deo and Gupte, 1974 : 73–4), while at the latter, a few terracotta moulds were found with illegible negative impressions (Sundara, 1981 : 91). Sarma (1980 : 35, 42) records the finds of moulds from Nagarjunakonda and Peddabankur. Those from the former site, however, are 'oblong moulds with designs for ornaments' belonging to the Ikṣvāku period (*IAR, 1959–60* : 9), while his assumption that Peddabankur was a mint is based on the find of 20,000 coins at the site (Gururaja Rao, 1978 : 60). As we shall show later, a coin hoard need not imply a mint.

In the absence of scientific analyses on the metrology of Sātavāhana coins, it is difficult to ascertain trends in the debasement of coinage, if any, thereby ruling out a significant indicator of the economic environment. The position is not much better as regards the weights of coins. Hoards are another important source of information and can be classified into accumulations, coins lost in a catastrophe, savings hoards, bullion hoards and mercantile hoards. Apart from providing an insight into the circumstances governing their deposition, these hoards are also good indicators of the political and economic climate of the region (Laing, 1969 : 54–6). A major handicap in the analysis of hoards is that often not all the coins can be recovered. Several Sātavāhana coin hoards have so far been found and apart from the Jogalthembi hoard which consisted of silver coins, all the other hoards comprised coins of copper, potin or lead. The village of Jogalthembi, near Nasik, lies close to the junction of the rivers Godavari and Darna. The hoard consisted of 13,250 silver coins, but since some of the coins had been melted, the original number may have been about 14,000 to 15,000 coins. A majority of these were of Nahapāna countermarked by Gautamīputra Sātakarṇi and over 200 coins, two-thirds being those of Sātakarṇi, were perforated. This led Scott to observe that the hoard may have belonged to a temple (1908 : 223–44). The hoard, however, appears to be a mercantile hoard as all the counter-struck issues have a uniform set of symbols, i.e. the caitya on the obverse and the Ujjain

symbol on the reverse, though on the basis of the great variation in the depiction of these marks, it may be surmised that several dies were used. The condition of the coins indicates that they must have been a very long time in circulation both before and after being counterstruck.

Of the other hoards, four have been found in the western Deccan: one at Wategaon (Mirashi, 1972 : 205–12); two at Brahmapuri (Gupta, 1955–7 : 62); and the fourth at Banavasi (*IAR, 1970–71* : 29); two in the Vidarbha region at Tarhala (Mirashi, 1940 : 83) and Chanda (Mirashi, 1940a : 503), while the rest have been recovered from Andhra Pradesh in the eastern Deccan. A significant feature of a majority of these hoards is that they comprise hundreds of coins of a single type, but belonging to several different kings. All the coins in these hoards are round, have the elephant symbol on the obverse and the Ujjain symbol on the reverse. Though the alloy varies in the different specimens, surprisingly, the available weights fall into a uniform bracket ranging from one to eight grams. This variation may be due to the loss in weight resulting from the circulation of coins. As the elephant type of coin was extensively used by the Sātavāhanas (Sarma, 1980 : 142–5), we should have little difficulty in identifying these hoards as mercantile hoards deposited in the time of the later Sātavāhanas, probably due to political upheaval and economic instability.[8] The recovery of mercantile hoards is an indicator of the essential nature of the trade necessitating the extensive use of copper, lead and potin coins in commercial transactions and the continuity of a single coin-type during the reigns of several successive rulers.

The only exceptions to the above examples are from the eastern Deccan and include the Adapur hoard which has coins of the horse × six-arched hill with tree-in-railing type (Sarma, 1980 : 42–3) and the Penumuli hoard where all the coins have the Ujjain symbol on the reverse, though the obverse symbols differ in a few cases (*AR-ASI, 1924–25* : 158–61). The coins from the Padugupadu hoard also have the Ujjain symbol on the reverse, while the obverse has the horse symbol (Sarma, 1980 : 43). A remarkable feature of the Adapur hoard is that the lead coins are very heavy, weighing between twenty-five to

[8] Mercantile hoards are characterized by coins of a single type in general demand for trade and a hoard is dated on the basis of the latest coin (Laing, 1969 : 61).

thirty-two grams (ibid. : 237) and may have formed a part of a savings hoard. It is difficult to say anything about the Penumuli hoard, as only fifteen coins could be recovered (*AR-ASI, 1924–25 :* 158).

Of the 38, 512 Sātavāhana coins in the Hyderabad Museum, 24, 345 were obtained from Peddabankur and half of these had no legend. The largest number of coins with legends belonged to Gautamīputra Sātakarṇi, Puḷumāvi and Sātakarṇi IV, and the copper coins obtained from the site constituted the largest collection of Sātavāhana copper coins. In spite of the large numbers involved, there are no details regarding their recovery and whether they were all found in a single hoard (Rama Rao, 1961 : 9).

This widespread occurrence of Sātavāhana coins indicates the role of money in the economy. A Nasik inscription mentions that Uṣavadāta bought a field for 4,000 *kāhāpanas* and donated it for procuring food for those dwelling in the cave at Nasik (Senart, 1905–6 : 78–80). Similarly a majority of the donations at Kanheri were in the form of perpetual endowments of money ranging from 200 to 16,000 *kāhāpanas* (Burgess, 1883 : nos. 15–8; 21, 22, 26–8). Another inscription of Uṣavadāta mentions a payment of cloth money of twelve *kāhāpanas* each to the monks. It also refers to money for *kuśaṇa* (Senart, 1905–6 : 82–5). The term *kuśaṇa* has been interpreted as a monthly stipend given in addition to the money for clothes during the rainy season. This explanation by Senart and others is in refutation of Bhandarkar's hypothesis that it refers to a silver coin of Nahapāna (Sircar, 1964 : 166). Several inscriptions at Kanheri record payment of money for clothing and *kuśaṇa-mūla* to the monks (Burgess, 1883 : nos. 15, 18, 21, 28). Even if one were to accept the reading of the term as *kuśala-mūla*, there is definite evidence that money was made available to the monasteries for repairs (ibid. : no. 18) and other expenses also.

Most of these perpetual endowments were in the form of investments with guilds (ibid. : nos. 16, 17; Senart, 1905–6 : no. 15) or the Sangha (Senart, 1905–6 : no. 17) and only the interest was to be paid and utilized. Thus 2,000 *kāhāpanas* were invested in a weavers' guild at Govardhana at one *pratika* (monthly) for the hundred and 1,000 in another weavers' guild at three-quarters of a *padika* (monthly) for the hundred (ibid. :

82–5). An inscription at Junnar records investment with the guild of bamboo workers at one and three-quarters a month and with the guild of braziers at a quarter (Burgess and Indraji, 1976, reprint : no. 16).

We could add to these examples by referring to the *Jātakas* or the *Arthaśāstra* and by giving instances of wages paid in money; commercial transactions being finalized by haggling over prices; goods being purchased against securities; or traders borrowing money on bonds (*Jātakas*, Bk. I : no. 40). Our knowledge of the economic significance of the Sātavāhana coinage, however, remains incomplete and we can say very little regarding the denominations of the Sātavāhana coins and the purchasing power of the *kāhāpana*. Indeed it is equally difficult to correlate the coinage to the inscriptional evidence from the caves.

At this stage we must recapitulate the nature of economic changes ushered in during our period. Trade transactions which had started in the pre-Sātavāhana, presumably Mauryan, times gained an ascendancy under the Sātavāhanas as the potential of the Mediterranean market came to be fully realized. The exploitation of the commercial network, however, required a sound agricultural base, hence the proliferation of settlements in the fertile valleys of the western Deccan. The Sātavāhana rulers initiated the practice of gifting villages to the brahmans and the *bhikkhus* as early as the first century B.C., though it is only later, i.e. from the first century A.D. onwards, that there is evidence for the donation of land by lay devotees, a majority of the land grants being made at Junnar. Migrations and the development of new agricultural areas resulted in a weakening of the old social structure leading to the development of new networks of relationships. Monasteries stepped in at this juncture to fill the void and propagated the interdependence of monks and lay followers. This system worked to the advantage of the rulers and large donations to monasteries by royalty indicate the need to honour and appease them. Gradually, monastic establishments acquired greater power; donations were increasingly made by rich citizens and prosperous workers and money was invested with guilds, the interest to be paid to the monasteries.

Literary references indicate a complexity in the range of commercial transactions from the itinerant trader hawking his goods at the bottom of the scale to the guilds at the top. Donations made to the monasteries by craftsmen, artisans, merchants and guilds are evidence of their wealth and prosperity. This prosperity was based not only on internal trade but also on commercial ventures by sea. Indian ships were not the only ones plying the Arabian Sea but had to compete with Arab, Greek and Roman carriers as well. It would seem that sea trade between the Red Sea ports and the west coast faced increasing competition from Roman subjects, i.e., the Oriental Greeks resident in the cities of Egypt and the Levant. The periodicity of the monsoon winds along the Indian coast is such that only a short halt is possible for foreign ships calling at the ports of the west coast. This, coupled with the heavy investment involved in the sea voyage, resulted in foreign merchants being dependent on the local trade network. Under the Sātavāhanas this local network seems to have been streamlined to handle the increased trade as is evident from the large quantities of Sātavāhana coins in circulation. On the basis of the ceramic and other evidence it would appear that this network extended to the Kathiawar peninsula and had close contacts with settlements further north.

5
SOCIAL PARAMETERS

Economic organization is governed by the existing social structure; the best example of this maxim is the spurt in trade which resulted with the rise of heterodox religions in the middle of the first millennium B.C. Material wealth which had hitherto been consumed in elaborate *yajñas* was now available for exchange, investment and long-distance trade. Long-distance trade and the expansion of the agricultural base opened up new areas hitherto isolated or on the periphery. Another factor of considerable significance was the acculturation and Sanskritization of these tribal areas. This process could best be studied by a correlation of literary references mentioning tribes with archaeological evidence, though the vague and contradictory nature of these notices in ancient literature does not make it an easy task. It is now accepted that recruitments to the four-fold varna structure continued well into the medieval period and an ingenious way in which new groups could be accommodated was the theory of the mixed castes propounded by the *Dharmaśāstras*. The gradual increase in the number of these mixed castes and the non-Sanskritic names of many of them mentioned by the *Manusmṛti* (Chapter X) indicates that they were based on older tribal and occupational divisions.

The accumulation of wealth in the hands of specialized groups increased their vertical mobility and called for a realignment of hierarchy within the *jātis*. At the same time there was perhaps an influx of merchants or trading groups from the cities of the north as well as of foreigners loosely categorized under the term *yavanas*. The situation was further complicated by the presence of strong influences of both Buddhism and Brahmanism. The former on account of its liberal attitude towards social mixing was better suited to traders who had to travel long distances and often accept hospitality from people of all categories. As such they could in no way maintain ritual purity or follow taboos on sharing of food. At the same time the varna

structure of Brahmanism could not be ignored. This was perhaps more so for the ruling classes who had to enforce authority and could no longer rely on tribal alliances for doing so. Inscriptions in the western Deccan caves are significant barometers of this phase of transition and social change, but for a proper appraisal of the situation we shall have to digress and to start with the Megalithic period. This, when studied in corroboration with the earliest literary references to peninsular India, may indicate the nature of correspondence between the two. Archaeological data indicate a dying out of Chalcolithic settlements in the western Deccan by about the middle of the first millennium B.C. and the region appears to be very sparsely populated till the rise of the Sātavāhanas. Interestingly, the subsequent Megalithic habitation is centred not in the western Deccan, but in the Vidarbha region which had hitherto been an area of isolation. This shift to Vidarbha may be explained on account of the region's rich deposits of iron ore, an invaluable metal in the Megalithic period.

Peninsular India is first mentioned as *dakṣiṇāpatha* in the *Aitareya Brāhmaṇa* (VII.18) dated to the pre-Buddhist period. The text describes the southern frontiers as the place to where the fifty sons of Viśvāmitra migrated, they being the older ones among the hundred sons and it was from these that the *dasyus*, i.e., the Āndhra, Puṇḍra, Śabara, Pulinda and Mutiba tribes were descended. These names are repeated in the *Sānkhyāyana Śrauta Sūtra* (XV), the *Mahābhārata* (Araṇyaka parva. 186.30) and the *Rāmāyaṇa* (IV.40.13). This account has been regarded as an early example of priestly ingenuity in the invention of genealogies for non-Aryan peoples in order to assimilate them into the lower ranks of Brahmanical society (Sharma, 1980 : 72).[1] Some of these tribes, such as the Āndhras, Pulindas and

[1] The migration myth has been frequently used to provide legitimacy, as in the case of the Bachgotris who originated from an ancestor Barriar Singh. The latter made his fortune in eastern Awadh and by the late nineteenth century various Bachgotri lines were widely spread over much of eastern Awadh and the Banaras districts, claiming membership in the sub-category of Rajput status called the Chauhan clan (Fox, 1971 : 24).

In one version of the myth, Barriar Singh Chauhan is said to have fled his ancestral home to seek asylum from the Muslims; the other version has Barriar Singh and his twenty-one brothers dispossessed by their father in favour of the son of the latters' second wife (ibid. : 68). Whether they were the agents of encroaching Muslim imperialism or refugees from the latter's devastation, these lineage ancestors brought under control tracts of land outside the orbit of central state authority (ibid. : 69).

Pitinikas formed subject tribes at the time of Aśoka (rock edict XIII). A similar expression—*dakṣiṇāpada*—used in the *Ṛgveda* (X.618) refers to a place where the exiled went (Macdonell and Keith, 1912 : 337). Pāṇini (*Aṣṭādhyāyī*, IV.2.98) mentions a *dākṣiṇātya* as a person from the south and Patañjali commenting on Pāṇini's I.1.19 refers to *dakṣiṇāpatha* as the region where the word *sarasi* is used to denote large lakes. The *Vinaya Piṭaka* (I : 195–6; II : 298) refers to the *dakṣiṇāpatha* as a remote settlement in the upper reaches of the Godavari, while the *Mahāvagga* (V : 12–13) and the *Divyāvadāna* (21–2) mention *dakṣiṇa janapada* as located to the south of the village Satakamika in the *dakṣiṇāpatha*.

While Pliny (*Natural History*, VI.22) borrowing from Megasthenes refers to the 'Andarae as a still more powerful race which possessed numerous villages and thirty towns defended by walls and towers and which supplied an army of 100,000 infantry, 2,000 cavalry and 1,000 elephants', the *Manusmṛti's* tenth chapter ascribable to late Gupta times theorizes about the legitimization of tribes and occupational groups in the varna structure (Sharma, 1980 : 333) and denigrates the Andhras to the position of outcastes dwelling near well-known trees and burial grounds, on mountains and groves (X.36 ; 50). The *Purāṇas* include the names of the Sātavāhana kings in the genealogical lists and refer to them as Āndhras, Āndhrajātiyāḥ or Āndhra-*bhṛtyāḥ* (Pargiter, 1962a : 38–9).

Apart from the established kingdoms of the south, Sangam literature recognizes tribal chieftains who ruled independently in the less fertile pasture lands corresponding to a wide belt between the fourteenth and seventeenth degrees of latitude. In addition to their main pursuit of animal herding, some agriculture was practised by them in settled pockets of cleared land (Leshnik, 1974 : 19). Mention is also made of the Cola king Karikal who undertook to suppress the turbulent tribes who were ravaging his northern borders. These tribes included the Andars who are described as shepherds and skilled horsemen. Aiyangar (1941 : I, 46) has identified the Andars with the Andhras.

The later *Saṃhitās*, the *Brāhmaṇas*, the Epics and the *Purāṇas* refer to several tribes living outside the range of Aryan influence, though here we are concerned only with those living in the

Deccan. It is difficult to define their habitat and place of residence as the references are usually vague if not contradictory. We have mentioned that the Āndhras are enumerated along with the Śabaras, Pulindas and Mutibas and are described in the *Mahābhārata* as low and barbarous people (Ādi parva, CLXXVII, 504) residing in the south (*Dakṣiṇāpatha-janmānaḥ*, Śānti parva, 200, 39). Ptolemy mentions the Sabarai generally identified with the Śabaras and the *Rāmāyaṇa* (Ādi kāṇḍa, 1, 59) describes them as a wild tribe inhabiting the Vindhyan region. They are again mentioned in the *Mārkaṇḍeya* (57.47), *Matsya* (113.47) and *Vāmana Purāṇas* (13.47–50). A Śabara tribe exists to the present day in western Orissa.

The *Purāṇas* such as the *Matsya* (114, 46–8) and the *Vāyu* (45, 126) describe the Pulindas as *Dakṣiṇāpathavāsinaḥ* together with the Vaidarbhas, Dandakas and Vindhyas, though elsewhere (*Viṣṇu Purāṇa*, II.156), the Pulindakas are associated with the Sindhus. Ptolemy (VII, 1, 64) describes the Poulandai as 'those who lived on wild fruits'. They are described as being dwarf-sized, black in complexion and living in forest caves (*Nāṭya-śāstra*, XXI, 89). The *Amarakośa*, a lexicon of the post-Gupta period, refers to the Pulindas as a *mleccha* tribe along with the Kirātas and the Śabaras (VII.21). Buddhist sources refer to the children of the demoness whom prince Vijaya married on his arrival in Sri Lanka as Pulinda and state that they lived in the interior of the island at a place called Sabaragamuva (Śabara-grāma) (*Mahāvaṃsa*, VII, 68; *Vinaya Piṭaka*, I, 168). It would seem that Pulinda is here used as a generic term.

Another *dasyu* tribe of the *Dakṣiṇāpatha* was that of the Mutibas (*Aitareya Brāhmaṇa*, VII.18) though their exact location is not known (Law, 1943 : 173).

The Puṇḍras are another of the early tribes mentioned in the *Aitareya Brāhmaṇa* as having been banished to the south and they figure again in the *Manusmṛti* (X.43–4). In the *Rāmāyaṇa* (Kiṣkindhākāṇḍa, XLI, 12), Puṇḍra is referred to as a southern territory, but according to the *Purāṇas* and the *Mahābhārata* the realm of the Puṇḍras seems to have been situated in the eastern division (Law, 1943 : 277). Puṇḍravardhana or Punavadhana occurs in two inscriptions at Sanchi (*EI*, II : 108, 380). According to the *Rājatarangiṇī* (Bk. IV) Puṇḍravardhana was the capital of Gaud in the eighth century (Dey, 1979, reprint : 161).

The Niṣādas are referred to for the first time in the later *Saṃhitās* and the *Brāhmaṇas* though the word seems to denote not so much a particular tribe, but appears to be a general term for non-Aryan tribes (Macdonell and Keith, 1912 : I, 453). In the *Manusmṛti* the Niṣāda figures among the mixed castes (X.8) who subsisted by killing and providing fish to the people (X.48). According to the Epic and Puranic tradition, the Niṣādas seem to have had their habitat in the Vindhya and Satpura ranges (Law, 1943 : 99). The Junagadh inscription of 150 A.D. credits Rudradāman with having conquered the Niṣāda country.

The Mekalas are described as a small tribe inhabiting the tract comprising the modern Amarkantak. The *Purāṇas* refer to it as a Vindhyan tribe, while the Epics place it in the south (ibid. : 374). The *Purāṇas* (*Mārkaṇḍeya*, 57, 45–8; *Vāyu*, 45, 126) mention another tribe, the Abhiras, as *Dakṣiṇāpathavāsinaḥ*, though earlier references in the *Periplus* (sec. 41) and Ptolemy (VII.1.55) place them in the lower Indus and Kathiawar region. The Abhiras were nomadic herdsmen who are believed to have migrated into India with the Scythians and then gradually moved southwards (Thapar, 1978 : 170). They are described as *mlecchas* and *śūdras* in the *Manusmṛti* (X.15) and the *Mahābhāsya* (I, 2, 72).

The Bhojas were an ancient tribe ruling in the south (*dakṣiṇasyām*) who held the Sātavats in subjection (*Aitareya Brāhmaṇa*, VIII.14) but according to the *Purāṇas* the Bhojas and the Sātavats were allied tribes both belonging to the Yaduvaṃśa which dwelt at Mathura (Law, 1943 : 366). In the *Mahābhārata* (Ādi parva, VII, 80) the Bhojas are described as the descendants of Druhyu who was cursed and banished by Yayāti, and Bhojakaṭa was their capital. Jaina texts, however, refer to the Bhojas as ksatriyas (Law, 1943 : 372). In Pali Buddhist literature there is a reference to a *rsi* named Rohitassa who was a Bhojaputta (*Samyutta Nikāya*, pt. 1 : 61–2). The Bhojas along with the Andhras, Pulindas and Rāṣṭrikas are mentioned in the rock edicts of Aśoka. The Hathigumpha inscription of Kharavela enumerates the Rathikas and Bhojakas as peoples defeated by the king of Kalinga. It has been suggested that the Bhojas and the Rāṣṭrikas were the ancestors of the Mahābhojas and the Mahārathīs who had marital rela-

tions with the Sātavāhanas (Raychaudhuri, 1972 : 259).

Another region to which great antiquity is attributed is Vidarbha. A tradition mentioned in the *Ṛgveda* (I.179.4) refers to the southward journey of Agastya and his marriage to Lopamudrā, daughter of king Nimi of Vidarbha. The *Aitareya Brāhmaṇa* (VII.34) refers to Bhima of Vidarbha, while the *Bṛhadāraṇyaka Upaniṣad* (II.5.22; IV.5.28) mentions a sage named Vidarbhī-Kauṇḍineya. In the Epics and the *Purāṇas* Kundinapur (identified with Kaundinyapura) is described as the capital of Vidarbha (Singh, 1972 : 283).

In the *Arthaśāstra* (VIII.4.43) there is mention of forest tribes who were well organized and a great danger to the state. Elsewhere (II.1.5) it is stated that forest tribes such as the Pulindas, Śabaras, Caṇḍālas and others should keep a watch over the frontiers of the state. It has been asserted that the tribes lived outside the varna-jati hierarchy. In ancient and medieval texts no distinct term is used for the 'tribe'—instead there are terms like *jana*—an ethnic group; *janapada*—an ethnic territory; and the outlying *janapadas* are referred to as *āṭavika rājyas* and *pratyanta deśas* (Sinha, 1980 : 1). 'Movement from the isolated tribal pole to the caste and peasant end thus involves a progression towards ethnic heterogeneity in social interaction, role specialisation, social stratification and emergence of elite classes and enlargement and diversification of territorial network with civilizational centres' (Sinha, 1965 : 62–3).

Literary references dated to the second half of the first millennium B.C. thus describe the western Deccan as a region inhabited by tribes loosely organized into petty chiefdoms, but provide no precise details about their social organization. Unfortunately archaeological data is equally skimpy. A majority of the Chalcolithic settlements had come to an end by about 1,000 B.C. as a result of a severe famine (Deo, 1982 : 5) and only a scatter of settlements continued thereafter, the epicentre in the subsequent Megalithic period having shifted further east to the Vidarbha region which has seventy-two of the eighty-three Megalithic sites reported in Maharashtra so far (Deo, 1983). In the western Deccan itself, Megalithic sites are few and include Ranjala in the west Tapti valley (*IAR, 1960–61* : 32) and Pimpalsuti near Inamgaon (Ansari and Dhavalikar, 1976–7 : 84–8). At a few sites like Tekwada (*IAR, 1956–57* : 18) and

Inamgaon, Megalithic Black-and-Red Ware has been found in the upper levels of the Chalcolithic period, viz., the late Jorwe culture.

An extraordinary feature of the western Deccan is the widespread occurrence of microliths. These have been found at several places in the Narmada and Tapti valleys and on cliffs along the rivers, the Godavari and the Pravara, from Nasik to Paithan. Around Pune, microliths occur on hill slopes, flat hill tops and the areas around Ellora, Ajanta, Pitalkhora and Karle caves. Natural caves located in the steep escarpments of basaltic hills overlooking the Konkan coast are known to have been occupied by microlith users (Sankalia, 1974 : 247). In the Marathwada region there is a series of small mounds yielding Sātavāhana pottery and microliths and this association is an extensive phenomenon.[2] Typologically these microliths have been derived from the blade and burin industries of the Upper Palaeolithic period, though it has not been possible to determine a time bracket for them. It is quite likely that many of these sites continued well into the Chalcolithic and Early Historical periods. An analysis of tool types shows that lunates and geometric microliths predominate at these sites. Their association with hunting is known and ethnographic parallels show that they were frequently hafted as points or barbs in arrow and harpoon heads (Allchin and Allchin, 1974 : 56).

In the other regions of the peninsula, notably the Vidarbha region, eastern Deccan (147) and Karnataka (309), there is a spread of Megalithic sites the largest number (386) having been found in Tamil Nadu (Deo, 1983). In Karnataka, Megalithic burials include several types such as dolmens at Motebennur, Hunur and Coorg (Sundara, 1975 : 167); pit burials and circles in the Raichur doab; and passage chambers in north Karnataka. The Kolar district, known for its gold deposits, is the richest in Megalithic monuments. Similarly, there is a big Megalithic settlement at Hire-Benkal near Hospet known for its rich iron ore reserves and at Maski, located in the band of Dharwar rocks with an auriferous quartz reef noted for its ancient gold-working pits. The Kappatgudda range, where there are a number of Megalithic sites, is rich in gold as well as in iron and has many gold-working pits and sites strewn with

[2] Personal communication, Dr S. N. Rajguru, Deccan College.

iron slag (ibid. : 156). Though no direct evidence concerning smelting activities has so far been found in Karnataka, circumstantial evidence cannot be ignored. Allchin has shown the great antiquity of the Maski goldfields and the large number of crushing and rubbing stones found there indicate that these mines have been worked since the Neolithic period (1962 : 195–211).

The presence of an iron-smelting furnace in Vidarbha and a study of the artefacts suggests that local iron ores were used in the Megalithic period. An analysis of the iron objects shows that they contain a very high percentage of iron with little impurities or admixture. For instance some of the iron objects from Takalghat and Khapa had a 99.6 per cent iron content, while an axe from Mahurjhari had an iron content of 99.1 per cent, the carbon element contributing 0.9 per cent with a small trace of chromium. The evidence from Naikund indicates that Megalithic smelters used ten to twelve kilograms of iron ore for a single smelting operation producing three to four kilograms of iron (Deo, 1982 : 29).

A similar correspondence can be seen in Andhra Pradesh where Megalithic communities show a preference for fertile tracts and river valleys and areas rich in gold or diamonds.[3] The lower Krishna valley appears to be more intensively settled than other parts of Andhra; there are fairly large clusters of megaliths in Anantapur and Chittoor districts in the vicinity of the gold-bearing Dharwar schists, and at a now exhausted mine at Ramagiri in Dharmavaram taluka (Chatterjee, 1976 : 216). As in Karnataka, here also megalithic remains are varied and include stone circles, menhirs, port-holed cists, dolmenoid cists and ram-shaped sarcophagus (Gururaja Rao, 1972 : 181–5).

To the north of the Andhra region, no Megalithic remains have been found in Orissa; this would suggest that the inhabited corridor in the Megalithic period extended via Nalgonda and Medak districts of Andhra Pradesh to central India, past the sites of Pochampad and Peddabankur in the middle Godavari valley. Hundreds of Megalithic stone-circles have been found in the Vidarbha region of Maharashtra, the

[3] Diamond mining is a late phenomenon on the Indian scene, for there is no trace of the gem in Vedic literature, but its use becomes widespread from the period of Pali literature and the *Arthaśāstra* (Lad, 1978 : 293).

districts of Nagpur, Bhandara, Chandrapur, Wardha and Amaravati (ibid. : 212–15) and in the Seoni, Raipur and Durg districts of Madhya Pradesh (ibid. : 216). In Vidarbha, the predominant Megalithic type is the stone circle (Deo, 1970 : 59) and the sites are spread over an area measuring 150 kilometres east–west and fifty kilometres north-south.

It is doubtful if much reliance can be placed on burial types for working out ethnic distinctions in society. The *Manimekhalai* of the early centuries A.D. lists several methods of disposing of the dead: cremation, exposure, burial in pits, entombment in subterranean vaults and interment in urns (VI.67–8) and makes no distinction between these modes. Ethnographic parallels also indicate the prevalence of more than one method of disposing of the dead in several societies.

A detailed analysis of the evidence from Vidarbha shows that the number of different objects and their average per burial tends to be more in bigger stone circles than smaller ones. At Takalghat-Khapa, horse bones, horse-bits and horse ornaments came only from one out of the four excavated megaliths and this was also the largest in diameter (Deo, 1983). At Mahurjhari, distinctive items like a dagger with an iron blade and copper hilt, the remains of a horse and horse-ornaments of copper came from only three of the twelve megaliths that were excavated (ibid.). Of the four burials excavated at Borgaon, one megalith gave twenty-six of the total of forty-four iron objects and it was this stone circle which had distinctive items like a horse-bit of iron and a trident (ibid.). These differences were not limited to individual burials, but also seem to have been within sites. While gold objects have been found at Mahurjhari and Naikund in Vidarbha, these do not occur at Khapa and Gangapur. Elsewhere in the peninsula also, megaliths yielding gold objects are few and include sites such as Maski, Nagarjunakonda, Brahmagiri, Janampet and Adichanallur (ibid.). The localization of certain burial types in particular regions, as indicated above, would, however, suggest the existence of smaller units within the larger Megalithic culture.

Irrespective of the location, the discovery of iron swords, daggers, arrowheads, celts, bill-hooks, chisels, axes, spades, sickles and to a lesser extent horse-bits, tridents and tripod ring-stands in the graves is a recurrent theme. These together

with bronze bells, jingles, jewellery and pottery vessels define the characteristic assemblage (Leshnik, 1974 : 1). Thus the widespread influence of a single technological tradition is evident. The cemeteries further have in common a group of three pottery wares. The most distinctive is the Black-and-Red Ware and the plain red and plain black ware, both polished. Under the overriding general unity, local differences in form and type are observable (ibid.). The micaceous red ware is predominant in the Vidarbha megaliths, red ware in the passage chambers of Karnataka, all black and Black-and-Red Wares in the Hallur region, while in the Maski–Sanganakallu–Brahmagiri area, the Black-and-Red Ware and red ware occur more or less in equal proportions (Sundara, 1975 : 221–2). Apart from the localization of burial types and ceramic wares certain regions show characteristic features as well. For instance, in the Vidarbha megaliths, the lower extremities of the skeletons are missing; the horse is also buried in the graves; and cup marks are found on certain stone circles.

Anthropological studies show that some form of distribution of services or goods exists between tribes and this process set in a non-economic matrix takes the form of gift and ceremonial exchange. Social position, religion and family organization are all factors that give a firm texture to this complex of relationships (Herskovits, 1952 : 155). An example from the Nilgiri hills would help elucidate the nature of these complexities[4] and we may postulate some interdependence between the Megalithic groups also.

The general opinion among scholars tends to describe the Megalith builders as sedentary agriculturists on account of the

[4] The members of the Kota tribe were musicians and artists for the neighbouring folk of their area—the pastoral Toda, the jungle dwelling Kurumba and the agricultural Badaga. Each tribe had clearly defined and ritually regulated obligations and prerogatives with respect to all the others. The Toda provided the Kota with ghee for certain ceremonies and with buffaloes for sacrifices at their funerals. The Kota furnished the Toda with the pots and knives needed in everyday life and made music essential to Toda ceremonies. The Kota provided the Badaga with similar goods and services, receiving grain in return. They stood in the same exchange relationship with the forest Kurumba, but these latter, who could only provide meagre material compensation—honey, canes and occasionally fruit—were able to offer the Kota supernatural protection, since the Kurumba were dreaded sorcerers, so feared that every Kota family must have their own Kurumba protector against the magic which others of their tribe might work against them (Herskovits, 1952 : 157).

presence of ploughshares among the grave goods and owing to the proximity of megaliths to tanks used for irrigation in peninsular India. Leshnik (1974 : 247) has challenged this view on the ground that in contrast to village cemeteries in the subcontinent today, Megalithic burials are frequently beyond arable lands and that in many cases there are no associated habitation remains either. He states that the average size of the cemeteries is small implying relatively small social groups more readily applicable to an intinerant society. The nature of grave goods also reflects a pastoral economy, the horse being more suitable for transport rather than as a draught animal for which role the buffalo is better adapted. Similarly iron implements found in the graves are suited as instruments of aggression rather than defence; the so-called ploughshare being identified as a pick-axe (ibid. : 249). Besides a nomadic pastoralist society does not rule out an agricultural component within it. While accepting Leshnik's argument for the presence of pastoral nomadism in the Megalithic culture, it is also felt that agriculturists formed an equally important element, the two groups being tied together in a symbiotic relationship. There is a cluster of Megalithic settlements in the fertile lower Krishna valley where agriculture formed a significant component of the economy (Chatterjee, 1976 : 204). This seems to be the case in Vidarbha also where two habitation sites have been excavated—Naikund and Takalghat (Deo, 1982a : 28). Due emphasis has also not been given to other occupational groups such as blacksmiths, potters and the like. The general similarity of iron implements found at Megalithic sites suggests a single technological tradition which was perhaps carried on by itinerant groups of blacksmiths. A similar case can be made out for groups specializing in gold working, bead making and pottery making. The last perhaps falls in a different category as a certain amount of pottery is likely to have been locally made.

Right through to recent times wandering occupational tribes in India have been a complement to settled agriculturists. This nomadism is unlike the nomadism of pastoral people to the extent that the dependence is not so much on animals and their movements are guided by the needs of trade rather than by the needs of food for the animals reared. The case of the Gariya Lohars is well known. In Birbhum district one comes across

roving groups of brass workers and the Lambardi or Banjara tribe of north Gujarat and central India are a labouring tribe who settle in one place as long as work is available there (Bose, 1956 : 1–6). A similar position of interdependence may be postulated for the Megalithic period and this would help explain the concentration of sites in areas of varied mineral resources.

This balance seems to have been disturbed after penetration from the north which perhaps started in the pre-Mauryan period but was established during the reign of Aśoka. An earlier tradition mentioned in the *Ṛgveda* (I.179.4) refers to the journey of Agastya southwards and his marriage to Lopamudrā daughter of King Nimi of Vidarbha. On the testimony of the Tibetan historian Taranath, political relations between Bindusāra and the chiefdoms of the Tamil region have been postulated (Narayanan, 1975 : 246). A thirteenth-century inscription refers to the conquest of Kuntala, indentified as the western Deccan, by the Nandas (Ray 1983 : 7–8) and tradition associates Candragupta Maurya with Jainism in Karnataka (ibid.). These references are however, considerably later and should be treated with caution.

On the basis of literary references to Andhapura on the river Telavaha in the *Jātakas*, some scholars have suggested a pre-Aśokan penetration into peninsular India (Chakravarti, 1947 : 15–25). This view seems to be supported by fourteen dates from Dharanikota which provide a range from 475±100 B.C. to 205±100 B.C. for the NBPW spread at the site (Sarma, 1974 : 49–56). Similarly Gupta has also indicated that the punch-marked coins from Raichur, Karimnagar and Gulbarga districts are of pre-Mauryan origin (1960a : 2), though this is disputed by Kosambi (1981a : 92) and Mitchiner (1973 : 103) who state that a majority of silver coins found in peninsular India belong to the Magadha–Mauryan series. Maloney (1968 : 227) has indicated that gold from the peninsula reached the west coast as early as the fourth century B.C. We are, however, on firmer ground when dealing with Mauryan contacts.

Mauryan inscriptions and settlements show a close correspondence with Megalithic sites and this proximity itself would suggest some form of contact. Indeed at sites like Maski, Brahmagiri and Amaravati, Aśokan inscriptions are found in

the vicinity of Megalithic settlements. We know that Kauṭalya propagates the association for administrative purposes of people dwelling beyond the frontier: 'trappers, Śabaras, Pulindas, Caṇḍālas and forest dwellers should guard the intervening regions between them' (II.1.5), while the *Jātakas* mention foresters guiding caravans through wooded regions (Bk. XVI : no. 513). Material evidence of this contact is hard to come by.

It is difficult at this stage to theorize about the similarities between the Vidarbha megaliths on the one hand and north-western India or central Asia on the other to indicate a possible route along which the Megalithic communities may have spread. Radiocarbon dates from Vidarbha provide a time-bracket ranging from 690±80 B.C. to 262±80 B.C. for the Megalithic period; elsewhere in Andhra or Karnataka firm dates for Megalithic settlements are few. The state of our knowledge is rather nebulous, though it does seem likely that the opening up of the peninsula for commercial exploitation by the Mauryans led to the gradual transformation of the Megalithic settlements.

The change, however, was neither sudden nor uniform and several Megalithic sites are known to have continued till the early centuries of the Christian era. About 100 B.C. a *rājan* named Kuberaka appears to have ruled in the region around Bhattiprolu not far from Amaravati. Kuberaka was the son of Sarira who appears to have had no royal title and the king's commercial connection is implied in the statement that he headed the *goṭhi* (committee) of *nigamaputas* (Lueders, 1912 : 1335). In Vidarbha there is continuity of occupation from the Megalithic to the Sātavāhana period. Insufficient data make it difficult to delineate the trajectory of change and transformation which resulted in the formation of an institutionalized political authority vested in the king. It would seem likely though that the Mauryans opened up tremendous possibilities of commercial expansion in the peninsula.

At the same time internal developments within the Megalithic communities in the region may have been equally responsible for the transformation. Several models have been used to explain the development of complex societies. Some of the most persuasive explanations for the emergence of the state use

population growth as the initial driving mechanism. Others invoke trade as the 'prime mover' where exchange relations of a ranked society with a more developed state society secure for the elite of the former a whole range of sophisticated prestige goods which can be used to consolidate their position, or elsewhere interregional trade can exploit the distinction between ecological zones. A model which may be more appropriate to our data is the 'peer polity interaction' model suggested by Renfrew for the Aegean state which was a single-centred organization with no effective settlement hierarchy (1982 : 282–3). The transition from chiefdom to state may be seen as a result of interactions between essentially equivalent units. Different centres had varying access to local resources, including metals and different specialist outputs. We have already referred to differences in the occurrence of gold objects at Megalithic sites and the unequal distribution of certain distinctive objects, e.g., lids with embellished finials of copper/bronze. The increasing intensity of interaction between them was instrumental in promoting both the formation of elite groups in the different participating areas and the intensification of production, including agricultural production to support both specialists and elite. The importance of the trading links is seen in the high level of interaction within the region (ibid.).

Increase in trade and commercial use of the ports of the west coast may have accelerated this process. Some of these groups may then have challenged tribal authority, aspired for higher jati status or even emerged into a ruling elite. As examined subsequently, varna identities are rarely mentioned in western Deccan inscriptions and there appears to be a plurality of political nucleii as well. Our hypothesis is further supported by the status accorded to mixed varnas in the *Dharmaśāstras* and the possible tribal origins of some of these (Kosambi, 1951–2; Jha, 1970).

Literary references as we have seen indicate the presence of several jatis in the western Deccan, one of which—the Andhra jati—rose to power in the first century B.C. The *Purānas* refer to the Sātavāhanas as Andhras, Andhra-*bhṛtyas* and Andhra-jā-*tiyāḥ*, though the Sātavāhanas do not mention the Andhra connection in their inscriptions. It is likely that the rulers belonged to the Andhra jati, Sātavāhana being their clan

name.[5] According to Srinivas Ayyangar (1913 : 281) Āndhra was first a tribal name, then it became the name of a dynasty who ruled in the western Deccan; the Mayidavolu inscription of the fourth century A.D. first associates Andhrapatha with the lower Krishna valley (*EI*, VI : 84), while in the eleventh century it denoted a language. Kosambi (1960 : 221) states that the name Sātavāhana is derived from the Sanskrit *Saptivāhana, sapti*, meaning horses, perhaps the totem of the clan. The horse may have reached the tribes in the Deccan by way of trade. The tribe or family group who first used horses would gain superiority in warfare (Kosambi, 1974 : 19). Hence on acquiring power, it is likely to adopt the horse as its clan symbol. It is then not merely coincidental that the horse occurs in the Megalithic burials of Vidarbha. Kosambi (ibid.) further explains Sātakarṇi or Saptikarṇa (a 'horse ear') as a split totem which sometimes develops when a 'primitive exogamous clan splits into two or more units'.

Mahadevan (1982 : 313) also sees a reference to the clan symbol in the term *sāta* + *vāhana*, i.e., bearer of the ritual vessel *sāta*. *Sāta* first occurs in Vedic literature (*Śatapatha Brāhmaṇa*, XII.7.2) and has been explained by later commentators as a word of *mleccha* origin. It has been suggested that the Āndhra chieftains who must have been bilingual assumed their Sanskritized titles on the basis of their traditional clan symbols, whose original significance had been lost much earlier (Mahadevan, 1979 : 267). The author of a fifth century A.D. commentary of the *Sutta Nipāta* equates the Āndhras with the Andhakas, while the Vinaya texts locate a city called Setakannika often believed to be associated with Sātakarṇi in the Vindhyan region (Sircar, 1968 : 193–4).

The term Sātavāhana has been variously explained by other scholars as 'one who rode a *yakṣa* called Sata'; 'one by whom conveyances were given' (*sātāni vāhanam*); or as a Prakrit form of *saptavāhana* (Sun or Viṣṇu, Gopalachari, 1957 : 299–300). Adiyārkkunallār, the commentator of the Tamil work *Silap-*

[5] Each person belongs to certain groups within his jati. One such group is the family. Families related by patrilineal descent form a lineage, while a clan is a larger group and consists of those who trace their patrilineal descent from a remote, usually legendary ancestor. The clan is an exogamous unit within an endogamous jati (Mandelbaum, 1972 : 16).

padikaram, equates Sātavāhana with Sāttan (a village deity) while Przyluski (1933 : 88–91) derives it from the Munda words *Sādam* (horse) and *hāpan* (son). Bakhle (1928 : 44) would link the Sātavāhanas with the *sātiyaputas* mentioned in the second rock edict of Aśoka. Bhandarkar, on the other hand, compares *sātiyaputo* (the Kalsi version) with Satpute, a name current among the present Marathas (1909 : 398). The recent discovery of a Brahmi inscription at Jambai in the district of South Arcot by the Tamil Nadu State Department of Archaeology associates the *sātiyaputo* with the Adigaimāns of Tagadur mentioned in the Sangam literature.[6] A story in the *Kathāsarit-sāgara* refers to Sālivāhana (the Prakrit form of Sātavāhana) as the son of a brahman girl living at Paithan and a Naga father (Bhandarkar, 1975, reprint : 47–8).

The Sātavāhanas refer to themselves as *khatiyadapamānamadana* (one who crushed the pride and conceit of the ksatriyas) and *ekabamhaṇa* (unique brahman) while the queen uses the epithet *rājarisivadhu* for herself (Burgess, 1964, reprint : 60–2). Some scholars have interpreted *ekabamhaṇa* as the sole protector of the brahmans though this explanation has evoked little favourable response from others (Yazdani, 1960 : 81–2). It has been suggested that the Sātavāhanas were a priestly clan who on acquiring political power claimed brahman ancestry (Jaiswal, 1979–80 : 29). The Nanaghat inscription of Nāyanikā refers to the performance of *yajñas* by the early kings in which large donations were given to the brahmans (Burgess, 1964, reprint : 60), though later on the Buddhists were the sole beneficiaries of royal munificence. These early attempts to woo the brahmans may be attributed to the ruling family's need to legitimize their status and to buttress the authority of the state. Buddhism, as we shall discuss later, was better suited to maintain cohesion within new settlements, hence the patronage given to it by the later Sātavāhana rulers. Uṣavadāta, on the contrary, possibly had both objectives in mind as he was faced with the need to consolidate territories recently acquired by the Kṣatrapas and had to legitimize his rule on account of his foreign origin.

This need to acquire legitimacy would become crucial in a situation where a society was making a transition from a tribal

[6] I am grateful to Dr R. Champakalakshmi, Centre for Historical Studies, J. N. U., for this information.

structure to a varna structure, for instance under the Sātavāhanas in the western Deccan. The adherence to Brahmanical rituals has to be studied in another perspective also. The varna system signified the official ideology justifying the changing social stratification and it was within this system that social mobility was sought. Those who aspired to a higher status did so within the restrictions of the social order and did not seek to change or alter it. Because the stable order had to be maintained, those who did rise engaged in certain practices of what has been called 'symbolic justification' (Mandelbaum, 1972 : 455). Hence on aspiring to brahman status, it became concomitant for the Sātavāhanas to stress ritual purity and to avoid pollution (*varṇasaṅkara*, Nasik inscription Senart, 1905–6 : 60f).[7]

Another characteristic feature of Sātavāhana inscriptions followed by the Vākāṭakas and Kadambas was the use of metronyms. These may have been significant to distinguish

[7] This transformation in the western Deccan has close parallels with later events that took place in the medieval period in central India. The actual process of state formation has taken varied courses in different instances. Some like the Munda Raj of Chota Nagpur, the Bhumij State of Barabhum and the Raj Gond kingdoms of Gondwana appear to have emerged mainly through internal developments out of a tribal base. There are also cases of immigrant Rajput adventurers gaining power in the tribal tract by manoeuvring the narrow range clan-bound tribal chieftaincies and in a few cases even by conquest, e.g. Bastar, Surguja, Jashpur (Sinha, 1962 : 70). Whether a particular state is primarily an internal growth or the creation of an adventurous Rajput of pseudo-Rajput lineage, the final forms of the political structure of these states in central India look more or less alike in essential features. Among the Munda, Bhumij and Gond, the superstructure of the state looks like a conglomeration of clan-based territories (ibid. : 72–3). Similarly, an elaborate bureaucratic machinery of military, revenue and administrative officials so characteristic of centralized monarchies did not develop at all among the tribal derived states of central India, except to a very limited extent among the large Raj Gond kingdoms of Garha Mandla (ibid. : 74).

Brahman priests in search of new clients in the growing aristocratic strata in the tribal frontiers played a more important role in the diffusion of the Rajput model, both on the sacred and secular levels, than the Rajput themselves. The diffusion of the Rajput model of state as well as the indigenous developmental processes could gain ground only among those tribal groups who had attained the technological level of settled agriculture (ibid. : 72).

The relative position of the various orders of the so-called Rajput families was determined mainly by two factors: the priority in their attainment of ksatriya status and the size of the territories politically and economically controlled by them. In order to achieve these, brahmans of the right kind were employed to make fictitious genealogies and these were buttressed by ritual display and at times by marriage alliances with an already recognized Rajput ksatriya family (ibid. : 49).

between the progeny of different wives and were used by both royalty and by ordinary people. Examples may be quoted from other regions as well, such as their mention in the Mathura inscriptions. A Vāsiṭhīputa gifted a bamboo lattice work and a cave facade at Ajanta (Burgess and Indraji, 1976, reprint : 67). Other examples include the royal physician Vacchīputa Magila at Pitalkhora (Burgess, 1964 : nos. 5, 6, 7); Kosikīputa Viṇhudata at Bhaja (Burgess and Indraji, 1976, reprint : no. 2); Kocchīputa Mahābhoja Velīdata at Kuda (ibid. : no. 23); and Gotīputa Mahārathī Agimitranaka at Karle (ibid. : no. 2). At the same time, donors mention the names of their fathers also, e.g. as at Bedsa no. 3; Junnar nos. 26, 28; Kuda nos. 13, 16; Karle nos. 4, 6, 11 (ibid. ; also Lueders, 1912 : no. 1271).[8]

There is divergence of opinion on the reason for the use of metronyms. Trautmann (1972 : 9) suggests that a reference to the mother's patrilineage is made in order to establish the superiority of the king's claim over that of his half-brothers, to make flattering references to a major source of the king's power and to emphasize the special purity or illustriousness of the king's descent. Sircar (1976 : 130–5) has questioned these assumptions and argued convincingly that the use of metronyms is in conflict with the injunctions of the *Dharmaśāstras* which lay down that in the approved forms of marriage the bride acquires the *gotra* of her husband and loses that of her father. The persistent use of metronyms suggests the prevalence of those forms of marriage which do not involve *gotrāntara*, e.g., the non-approved forms such as Āsura, Gāndharva, Rākṣasa and Paiśāca.

Apart from having to maintain a unified political fabric, the Sātavāhanas would also have had to contend with the Mahābhojas and the Mahārathīs, with whom they had marriage alliances. These titles suggest chiefly origins and perhaps these alliances were in keeping with the clan affiliations of the rulers. The noble status of the Mahārathīs can be judged from the fact that Mahārathī Tranakayiro is given precedence over

[8] The presence of these two principles for descent has been interpreted as the result of the combination of two different ethnic groups, one matrilineal and the other patrilineal. What it actually entails is a process in which economically strong local groups having a matrilineal organization attempt to assimilate weaker groups (Ekholm, 1977 : 132).

the *kumāras* in the Nanaghat label inscriptions and Queen Nāyanikā is described as the daughter of a Mahārathī (Burgess, 1883 : 60–1, 64). Mahārathīs are known to have made independent donations to the monasteries as well. At Karle a lion pillar was given by Gotīputa Mahārathī Agimitraṇaka (Burgess and Indraji, 1976, reprint : no. 2) and a cistern donated at Bhaja by Kosikīputa Mahārathī Viṇhudata (Burgess, 1964, reprint : no. 7). The Mahārathīs appear to have followed the rule of hereditary succession and to have wielded considerable power, as they are known to have granted a rent-free village to the Valūraka Sangha, undoubtedly with the king's approval. The Karle inscription of the time of Vāsiṣṭhīputra Puḷumāvi records the donation of a village to the Sangha of Valūraka by Vāsiṭhīputa Mahārathī Somadeva, son of Kosikīputa Mahārathī Mitadeva of the Okhalakiyas (Burgess and Indraji, 1976, reprint : no. 14).

The Mahārathīs had marital relations both with the Sātavāhanas and the Mahābhojas. At Bedsa, an epigraph records the gift of Sāmaḍinikā, the daughter of a Mahābhoja and herself a Mahārathini, the wife of Apadevaṇaka (ibid. : no. 2). A second example comes from Kaṇheri, probably of the time of Hāritīputa Viṇhukada Cuṭukulānanda Sātakarṇi, where a cave was excavated by Nāgamulanikā, daughter of a mahārāja and of a Mahābhojī, herself the wife of a Mahārathī and the sister of a Mahābhoja (Burgess, 1883 : no. 29). The predominance of inscriptions of the Mahārathīs in the vicinity of Karle indicates the localization of their influence in that region. As contrasted to this, inscriptions of Mahābhojas are concentrated along the west coast.

Gupta has shown that the Kura kings whose coins have been found in the excavations at Brahmapuri in pre-Sātavāhana levels adopted the title of Mahārathī. He is of the opinion that the term Mahārathī was a title and by no means implied that all the kings who used it belonged to the same family.

It seems that after the disintegration of the Mauryan empire, the loyal administrators became independent rulers in their own territories . . . but retained the title of the post they were holding as administrators on behalf of the Mauryan emperor (1960–1 : 44).

Inscription 17 at Kuda records the gift of a cave by

Vijayanikā, daughter of Mahābhoja Sāḍakara Sudaṃsana (Burgess, 1964, reprint : 87). A large number of other inscriptions at the same site mention donations made by the family or *upajīvī* (retainers) of the Mahābhoja Mandava Khandapālita, son of Mahāḍbhoja Saḍageri Vijayā. These include inscription nos. 1, 9, 14, 17 and 23 (Burgess and Indraji, 1976, reprint, 4, 9, 13, 14, 17). It has been suggested that Mandava may correspond to Sanskrit Māṇḍavya or Māṇḍapa. In the first case the epithet would characterize Khandapālita as a member of a Brahmanical *gotra*, in the second it might indicate that he was lord of a town called Maṇḍapa, possibly the Mandagara of Ptolemy (ibid. : 4). Whatever the interpretation, the influence of the Mahābhojas is likely to have been restricted to parts of south Konkan. One of the inscriptions at nearby Mahad refers to a donation by Kumāra Kāṇabhoa Vheṇupālita (ibid. : 2) perhaps another line of the royal family. Further north, an inscription at Kanheri mentions the donation of a cave and a cistern by Dāmilā, Bhojikī of Aparānta, an inhabitant of Kalyan (Burgess, 1883 : 84).

The state thus had to keep in check tensions which might have been created by a plurality of political control. In spite of the injunctions of Kauṭalya in favour of an elaborate bureaucracy (Bk. II), Sātavāhana polity as is evident from inscriptions appears to have been comparatively simple. This seems to be in keeping with the *Milindapañha* which states that a king has 100 or 200 ministers, yet of these only six are counted as ministers, that is to say the general, the family priest, the judge, the surveyor of the storehouses, the bearer of the (state) sunshade and the bearer of the sword .... These ministers are exempt from taxation (Horner tr., 1964 : 159, 205).

Sātavāhana kings were called *rājā*, although Gotami Balaśrī claims that her son and grandson were *mahārājas* (Senart, 1905–6 : 60–2). The princes were referred to as *kumāras* (Burgess, 1883 : Nanaghat label inscriptions nos. 3, 5, 6). The major part of Sātavāhana polity perhaps comprised of *amātyas* though in one instance there is a mention of the *samaṇa mahāmāta* in the reign of Kanha (Senart, 1905–6 : 93) reminiscent of the *mahāmātras* of Aśokan inscriptions. Epigraph 16 at Kuda records the gift of a cave by Gautamā, daughter of *rājāmaca* Hāla (Burgess, 1964, reprint : 87). A royal minister perhaps also

served as a treasury officer since an inscription at Nasik mentions the gift of a caitya by Bhaṭapālikā, daughter of the *rāyāmaca* Arahalaya and wife of the *rāyāmaca* Agiyataṇaka *bhaṃḍakārika* (Senart, 1905–6 : no. 19). The *āmātyas* also appear to have been responsible for maintaining land records and for writing the land charters. The Nasik inscription of Gautamīputra Sātakarṇi commands the *amaca* Viṇhupālita at Govardhana to grant the Ajakṣālakiya field to the Tekirasi ascetics and to grant it immunities. The deed verbally ordered by the king was written down by *amaca* Sivaguta (ibid. : no. 4). A postscript to the inscription for a grant of 100 *nivartanas* of royal land is addressed to another *amaca* at Govardhana, Sāmaka (ibid.). The Karle inscription, probably also of Gautamīputra Sātakarṇi, is a command to the *amaca* Pariguta at Māmāda regarding the gift of the *gāma* of Karajaka and the deed was drawn up by Sivakhadaguta (Burgess, 1964, reprint : no. 20). The Kanheri inscription of the time of Vāsiṣṭhīputra Sātakarṇi mentions the gift of a water cistern by the *amātya* Sateraka (Burgess, 1883 : no. 4). A different *amaca* at Govardhana, one Sivakhadila, is mentioned in the Nasik inscription of Vāsiṣṭhīputra Puḷumāvi (Senart, 1905–6 : no. 3). Viṇhupāla who proclaims the praise of the Lord Buddha at the end of this inscription may also have been a minister (ibid.). Bhandarkar has read the name of the *amaca* as Savakhadalana and that of the *mahāsenāpati* who engraved it as Akasatasattva (1933 : 242–3). This reading has been contested and Senart is of the view that a special category of officers was responsible for registering the withdrawal of former donations and it is they who are entrusted with the abrogation of the previous donation of Sudasana village.

The mention of four different ministers at Govardhana during the reigns of two kings may itself be taken to indicate the presence of several ministers in the administration; nor is there any evidence to suggest that the office may have been hereditary. The post continues under the later Sātavāhanas and the Kodavolu inscription speaks of the establishment of an earth dwelling of an *amaca* (Lueders, 1912 : no. 1341). The Dharanikota *dharmacakra* pillar inscription refers to the gift of an *amaca* perhaps named Virakhada, the reading being doubtful owing to the damaged state of the epigraph. It has been sug-

gested on palaeographic grounds that the record belongs to the Sātavāhana period (Seshadri Sastri, 1937–8 : 259).

Apart from the Nasik cave inscription of Vāsiṣṭhīputra Puḷumāvi, nowhere is the *mahāsenāpati* ascribed the menial task of drafting an inscription. During the reign of Śrī Yajña Sātakarṇi, the *mahāsenāpatnī* Vasu, wife of the *mahāsenāpati* Kosika Bhavagopa, donated a cave to the Sangha (Senart, 1905–6 : 24). By the third century A.D. the *mahāsenāpati* appears to have acquired considerable power as the Myakadoni inscription refers to the *mahāsenāpati* in charge of a *janapada*, while under him the affairs of the *gāma* were conducted by the *gāmika* identified by some with the *gaulmika* of later Pallava grants (Sukthankar, 1917–18 : 155). Another officer connected with the writing of land charters was the *patihārakhī* (Senart, 1905–6 : 73). The mention of several officials indicates that unlike the Gupta period, the drafting of royal records was not entrusted to any one official by the Sātavāhanas. In spite of this, an elaborate procedure was followed for the recording of royal land grants. The Nasik inscriptions of Gautamīputra Sātakarṇi refer to Tapasa and Sujīvin as executors of land grants (ibid. : 72, 74). A similar function may have been performed by the *lekhaka* to the Mahābhoja Khandapālita (Burgess and Indraji, 1976, reprint : 4).

Apart from these officers a few royal retainers are also mentioned such as the royal physician (Burgess, 1964, reprint : nos. 5, 6, 7) and the foreman of the artisans of rājan Śrī Sātakarṇi (Lueders, 1912 : Sanchi no. 346).

Sātavāhana administration has been described as being coercive and its military character has been emphasized (Sharma, 1969 : 108–21). The inclusion of *apāvesa* and *anomasa* among the immunities granted to lands donated to monasteries (Senart, 1905–6 : 71) have been taken to indicate that 'royal police, soldiers, retainers and officials freely operated in rural areas and formed an effective agency of exploitation' (Sharma, 1969 : 118). This suggestion is said to be further strengthened by place names ending in *kaṭaka* signifying that they were military camps, e.g. Benakaṭaka. A third point cited in favour of the argument is the rise in status of the *senāpati* from being a minor official to one holding complete charge of a *janapada*, with a *gaulmika* subordinate to him. A *gulma* has been described as an

army unit on the authority of Manu (VIII.114) who states that it should be stationed in the midst of two, three, five or a hundred villages (ibid. : 108–21).

The military aspect of the administration has perhaps been overstressed. Given the conditions in which a heterogenous population had to be controlled by a monarchy which had little legitimacy to fall back on owing to its tribal background and which had to combat the threat of equally powerful feudatories, a certain show of force was inevitable. Much more important, however, was the peaceful consolidation of newly-settled lands by the state with the co-operation of monastic establishments. This aspect can be clearly identified in the Nasik inscription of Gautamīputra Sātakarṇi issued from the victory camp of the king in which he declares that the Ajakālakiya field in the village of western Kakhaḍī previously owned by Uṣavadāta should be granted to the Tekirasi monks (Senart, 1905–6 : no. 4). What better way to diffuse a potential threat than to establish a 'religious zone' which has to be respected by opponents also. Besides the monks with their emphasis on the preaching of *dharma* were better suited to establish channels of communication with the villagers and hence to act as 'religious agents' providing authority to the king's commands. If perchance they did not succeed, the king reserved the power to revoke his orders. A subsequent inscription of Gautamīputra Sātakarṇi at Nasik declares :

> We have here on mount Tiraṇhu formerly given to the *pavajita bhikkhus* [a] dwelling in the cave which is a pious gift of ours in the village of Kakhaḍī; but this field is not tilled nor is the village inhabited. Matters being so, that royal village of ours, which is now here on the limit of the town, from that field we give to the monks of Tiraṇhu one hundred *nivatanas* of land, and to that field we grant immunity (ibid. : 73).

Similarly, Vāsiṣṭhīputra Śrī Puḷumāvi granted the village of Sudisaṇa in place of Sāmalipada, to the *bhikkhus*, the reason for the change not being clear from the inscription (ibid. : 65).

Besides being pace makers of royal authority and agents of its legitimization, religious establishments posed little threat of armed rebellion to the king. On the contrary, the sanctity of these religious centres had to be respected by the king's oppo-

nents and this may have helped in the creation of buffer zones in areas of strategic importance. There has been some debate on the question of the loss of revenue to the king. An important consideration is whether the royal donor could himself have exercised all those powers which he transferred to the monks. A spatial study of royal inscriptions granting land shows that they are concentrated at Nasik and Karle. The importance of both these centres in controlling trade routes from the interior to the coast need not be dealt with here as it has been discussed in detail at several places in this study. What should be pointed out is that Nasik may have formed a part of the disputed territory between the Kṣatrapas and the Sātavāhanas and Karle lay in a region controlled by the Mahārathīs.

Kosambi was possibly the first scholar to recognize that the influence of monasteries extended far beyond religious matters. Monasteries were important purchasers of cloth and other commodities for the monks and retainers and of costly material for ritual and ceremony. They possibly also supplied (for profit) essential provisions and loaned (at interest) much needed capital to trade caravans. Besides 'the monasteries were untaxed and their possessions not in danger of arbitrary confiscation by kings or officials as might be the lay merchant's hoard. A secondary economic function, the charitable use of monastic grain for the relief of famine, scarcity or individual distress among laymen gained them special reverence from the savage tribes and the earliest villagers. The sanctuary that would be given even to robbers who wished to renounce their evil ways rendered these foundations the more immune to attack by brigands' (Kosambi, 1955 : 60–1).

As donations of land and money to Buddhist monasteries are dated from the first century A.D. onwards, we feel that any direct participation of monks in trade in the western Deccan may have been a later development. In the initial stages monasteries may have functioned more in the nature of pioneers in undeveloped areas. Great authenticity is credited to the story of Bāvarī in the *Sutta Nipāta* (1011–13) who left Sravasti to settle in the *dakṣiṇāpatha* with his disciples. Initially they subsisted by food gathering but gradually took to agriculture and a *grāma* developed in their neighbourhood. Other literary references to the spread of Buddhism in the western Deccan come from the *Vinaya Piṭaka*

which refers to a small community of monks in Avanti *dakkhināpatha* (*Mahāvagga*, V.13.2). The *Theragāthā* has verses attributed to Punna, Isidinna and Vaddha, natives of Sopara, Sunaparānta and Bharuch respectively (73, 190–1, 338–42).

At this stage we should perhaps examine the nature of the authority who executed the actual cutting of the caves. Each site in the western Deccan consists of one or more caityas and several viharas which were residential halls for the monks. The typical early caitya was aspidal in plan with a rock-cut stupa at the far end and a row of pillars dividing the interior into a central nave and narrow side aisles for circumambulation. The earliest vihara had the standard quadrangular form and the general trend was for these to become larger and at some sites, double-storeyed, indicating perhaps an increase in the number of resident monks at the site. The cells were provided with wooden doors not so much for privacy, but for the protection of valuables, e.g. at Ganesa Lena, Junnar (Kosambi, 1955 : 52). Occasionally a large hole cut through the partition into an adjoining cell shows that one of the pair was used as a treasury (ibid.).

It may be presumed that at any cave site one or more of the viharas was excavated before the caitya. At Junnar work on the caityas at Amba, Bhima Shankar and Budh Lena was abandoned, while the viharas appear complete. Later additions to viharas seem to have been made at several sites, e.g. at Karle, where a double-storeyed vihara is a later additon (Dehejia, 1972 : 137). The cutting seems, in general, to have started from the ceiling downwards and there are indications that after a preliminary rough cutting, sculpting and polishing were undertaken simultaneously (Trabold, 1970 : 85). The unfinished carving of Manmodi 39 shows that in this small excavation several different kinds of relief carving were in progress at once, with a minimum of three sculptors working on the facade while yet more carved the interior (Williams, 1970 : 189). In the absence of definite evidence one can only estimate the time taken for the cutting of a cave from allied data. The period suggested for the completion of a caitya ranges from sixty years (Khandalavala, 1956–7 : 11–26) to 'just a few years' (Spink, 1958 : 99). As worked out by Dehejia (1972 : 138) and Barrett (1959 : 77), on the other hand, a period of ten to fifteen years

would seem acceptable. On this basis, the excavation of a vihara would have taken less time.

The actual process of rock-cutting may have involved the active participation of perhaps the state which accorded legal sanction, the monks who may have supervised the work and specified the religious requirements and the artisans, some of whom may have been lay followers. An inscription at Sanchi refers to the foreman of artisans (*āvesanin*) of Śrī Sātakarṇi (Lueders, 1912 : no. 346). A later inscription of the time of Hāritīputa Viṇhukada Cuṭukulānanda Sātakaṃni at Banavasi mentions the gift of a *nāga*, a tank and a vihara by the daughter of a *mahārāja*. In this case the *amaca* Khadasati was the superintendent of the work (*kamamtika*, ibid. : no. 1186). An inscription at Kanheri refers to the building of a caitya supervised and executed by monks (*pavajita*) who are mentioned as *navakamika*[9] and *uparakhita* (overseers). The artisans responsible for the work included stone masons (*selavaḍhaki*), polishers (*mīṭhika*) and some who have not been identified: *nāvakamisa*, *kaḍhichaka*, *mahākaṭaka* (ibid. : no. 987). The monks referred to in this inscription may have been professional architects before joining the Sangha.

In several places, we have discussed inscriptions engraved in the western Deccan caves recording donations made by devotees. Indeed at Karle each pillar is said to be the gift of a separate person. It is intriguing to speculate how it could have been possible for different people to donate different portions of a cave when the cave itself provides evidence of an unified plan. It is likely that, as with present-day ashrams, donations in money were elicited either before or during construction and these gifts were appropriately recorded in inscriptions. A similar method may have been followed for the earliest caves as well, though at Bhaja there is no mention of such donations. Perhaps these records were painted and are now obliterated (Dehejia, 1972 : 139). At the same time, it is possible that the monks would have lived for some time in the area in wooden and brick monasteries before embarking on the excavation of rock-cut caves. There certainly is evidence of pre-Sātavāhana brick stupas at Maheshwar and Kasrawad.

[9] The Manikiala inscription of the Kuṣāṇas also refers to a *navakarmiga* or superintendent of buildings (*JRAS*, 1909 : 645).

Indications of royal patronage are perhaps recorded in the *Mahāvaṃsa* tradition which states that the Aparānta was converted by Dhammarakhita, a *yavana* sent after the third Council said to have been convened by Aśoka. Porphyrios (A.D. 233–305/6) writing on the *samanas* states: 'Their houses and temples are founded by the king, and in them are stewards who receive a fixed allowance from the king for the support of the inmates of the convents, this consisting of rice, bread, fruits and pot herbs' (McCrindle, 1971 : 170).

Sculpture not only forms a means of decoration and adornment, but may also be seen as a reflection of social values. The medium certainly imposes restraints, but these have never been insurmountable. Bharhut, Sanchi, Bodh Gaya and Amaravati are well known as centres of early Buddhist art. The themes portrayed may be broadly divided into life-size carvings of Yakṣas, Yakṣīs and Devatās; scenes from the *Jātakas* and the Buddha's life; and sculptures representing the previous Buddhas with their respective Bodhi trees. The caves at Udayagiri and Khandagiri are another important storehouse of early sculpture, but may be left out of this discussion as the subject matter of the carvings and friezes are based on Jaina mythology. In contrast to a profusion of narrative reliefs based on *Jātaka* stories at early Buddhist centres, the western Deccan caves are marked by simplicity and austerity in sculptural art with emphasis on the secular rather than the religious. There are very few representations of *Jātaka* stories, the most popular and favoured motifs being dwarf *yakṣas*, *mithunas* and winged animals. These motifs are by no means restricted to the western Deccan; they form the common repertoire of early Buddhist art, but their presence is certainly more pronounced in this region. It is unfortunate that very little remains of the royal portraits once sculpted at Nanaghat, apart from the labels indicating their erstwhile existence.

By and large, the viharas in the western Deccan are simple excavations with a few embellishments and very little sculptural ornamentation. Notable exceptions include vihara XIX at Bhaja which has two large narrative bas-reliefs, one starting on the extreme end of the back wall of the verandah and continuing onto the right wall and the other beyond the cell doorway on the right wall. The controversy over identification

of the panel has not been satisfactorily resolved and opinion varies between a jātaka identification and one associated with Surya and Indra (Dehejia, 1972 : 115–16). Apart from these a narrow relief panel on the eastern wall of the verandah depicts among others a horse-and-rider figure with what appears to be one of the earliest known examples of the stirrup. Along the wall above this panel is a pilaster with a centaur couple crowning the bell capital. The centaur motif occurs both at Sanchi and at Bodh Gaya (ibid. : 117).

Vihara XV at Nadsur contains a bas-relief depiction of a man and woman standing on a fish, while the decoration of vihara VII includes two *gajalakṣmī* representations contained within the arch above the cell doorways (ibid. : 118). *Gajalakṣmī* is also sculpted over the cell doorway of another vihara XVI at the same site and on the facade at Pitalkhora vihara IV and the Budh Lena caitya XL at Junnar (Jadhav, 1980 : 379). Elsewhere the *gajalakṣmī* motif may be seen at Udayagiri, Bharhut and Sanchi.

Five full-length guardian figures carrying various weapons such as the sword, spear, bow and arrows and club embellish vihara XIX at Bhaja (Dehejia, 1972 : 116). The three in the verandah are elaborately dressed and wear a *fleur de lis* armlet. A similar armlet is also worn by a more than life-size guardian of caitya III at Pitalkhora (ibid. : 119). Guardians on both sides of the doorway leading up to vihara IV at Pitalkhora wear an unusual costume consisting of a fringed tunic worn over a *dhoti*, and they carry a shield and javelin, unlike the guardians of the Nasik caitya and on the Sanchi gateways, who merely carry flowers (ibid.).

Another favoured ornamentation in the viharas was the sculpting of pillar capitals of the animal-and-rider variety, as at Nasik viharas X and III and the Ganesa Lena vihara at Lenyadri, Junnar (ibid. : 129–30). Vihara III at Nasik is seemingly supported by *yakṣa* figures emerging from the ground waist upwards, a popular motif in structural buildings at Bharhut, Bodh Gaya, Sanchi and Amaravati (ibid.). Similar *yakṣa* figures have also been shown holding up the balustrade of the stairs in front of caitya III at Pitalkhora. The most impressive discovery at Pitalkhora is the high plinth in front of vihara IV, seemingly supported on the backs of a majestic row of

life-size elephants. Originally a mahout stood between the forelegs of each (ibid. : 118).

In contrast, caityas contain much more decoration and a reference has already been made to the life-size guardian figures belonging to the caityas at Pitalkhora, Nasik and Kanheri. The striking dwarf *yakṣa* found in front of caitya III at Pitalkhora and now in the National Museum, New Delhi, has analogues at Bharhut and Sanchi (Willets, 1961 : 65) though it is remarkable for its workmanship.

An oft-repeated theme is that of the *mithuna* or amorous couple—a common motif at several early Buddhist sites—which acquires suppleness and grace in the western Deccan and reaches its climax in the caitya at Karle. Unlike those of the later periods, the couples very rarely betray any erotic suggestion. The carvings depict broad-shouldered, athletic men and buxom female forms shown in a variety of moods and postures. An interesting fragment from Pitalkhora is remarkable for the joyous expression on the face of the man (Dehejia, 1972 : 121). Of the few sculptural decorations that Kondane still retains are panels of dancing figures placed on both sides at the springing of the arch. Weapons such as the club, bow-and-arrow and shield carried by the man indicate that they were perhaps warriors. Their smiling countenances, easy and poised stances impart a certain lightness unsurpassable in stone sculpture of the period. The finest examples, however, are preserved on the facade of the Karle caitya, though they are not all of comparable workmanship. Great skill is shown in the way two dancing couples have been comfortably accommodated within the curve formed by the springing of the caitya arch (ibid. : 128). Compared to these, the *mithuna* couples placed against the back wall of the main chamber of caitya IV at Kuda are not in deep relief but the head-dress of the woman is more elaborate than any that we have come across so far. Below each of these couples is a narrow animal-and-herdsmen frieze with running animals and little dwarf-like figures (ibid. : 130). Their relaxed poses are, however, not reflected at Kanheri and the *mithuna* couples in the caitya appear lifeless and static.

The Budh Lena caitya at Junnar has a unique facade consisting of a 'blind' caitya arch and within it a half-lotus with seven sculptured petals. Two male figures have been sculpted at the

top of the arch, one of them winged and the other with Naga hoods raised above him (ibid. : 127).

As with the *mithuna* couples, the Karle caitya also marks the culmination in the carving of animal-and-rider capitals of columns, compared to those sculpted at Bedsa, Nasik, Junnar and Kanheri. Facing the nave, the capitals consist of two seated elephants with two riders on each, usually one man and one woman but occasionally two women. In the aisles, horses with single riders are to be seen; in two instances the horse is replaced by a sphinx and on one of the capitals a *mithuna* couple is to be seen (ibid. : 128). When viewed from the doorway the whole merges and appears to form a sculptural frieze. The animal-and-rider must have been a favourite decorative motif as a tiny bronze from Kolhapur shows a seated elephant with four riders. A stump of a broken peg on its underside indicates its use for decorative purposes (ibid. : 131).

The representation of *Jātaka* and Buddhist stories is rare in the sculpture of the western Deccan, perhaps the only exceptions being two panels from Pitalkhora, one showing the great departure of prince Siddhartha and the other a seated royal couple with retainers. Both panels are now preserved in the National Museum. In contrast there is an absence of sculpture in caityas X and IX at Ajanta, though both caves contain some early paintings, now damaged. Three scenes on the left wall of caitya X depict a king with his retinue, first worshipping a *bodhi* tree, then a stupa and finally entering through a gateway. On the right wall of the same cave are painted versions of the *Sāma jātaka* and the *Chaddanta jātaka*. Caitya IX also contains two sets of early painting: an animal-and-herdsmen frieze located immediately above the first few pillars on the left side facing the nave; and a group of Naga votaries approaching a stupa (ibid. : 124–6).

Both the *jātakas* painted at Ajanta were favourite themes of artists of the Early Historical period; the *Chaddanta jātaka* being depicted several times; on a medallion from Bharhut (Majumdar, 1937 : 38); three times at Sanchi (Marshall, 1936 : 52–3, 61, 76); in a much-damaged relief in the Gandhara style (Ingholt, 1957 : 47); and on two medallions from Amaravati (Burgess, 1887 : 45, 50). At Ajanta itself, the *Jātaka* is painted again in cave XVII in the later phase of rock-cutting. The

depiction of *Sāma jātaka* is much less frequent and is found on the western gateway at Sanchi.

It is generally believed that not much emphasis should be placed on the absence of *jātaka* representations in the western Deccan as many of these may have been painted and have now been damaged and lost. A Nasik inscription mentions a donation made for painting (Senart, 1905–6 : no. 4) and many caves in Ganesh Pahar and Shivneri at Junnar have plastered walls with traces of early painting. It seems that cave walls used to be smoothened in the earlier period and only later, i.e around the second century A.D., did the practice of plastering and painting over them come into vogue (Nagaraju, 1981 : 66). It would then be justifiable to suggest that the representation of *jātaka* stories had no place in the sculptural traditions of the western Deccan and were only introduced at a later period, i.e., second century A.D. when the caves came to be plastered and painted. On the whole then sculpture in the western Deccan when compared with other Buddhist centres, is simple and austere in content, though in form and grace some of the work is unrivalled.

This scanty data from sculptural representations is insufficient for a study of the structure of the society, for which we are solely dependent on inscriptional and literary evidence. The tribal nature of society in the Deccan was changed by a series of contacts as we have tried to show. As a result, accumulation of wealth in the hands of the chiefs or middlemen altered the tribal modes of redistribution, thereby placing tremendous strain on kinship ties. This led to the emergence of new loci of authority free of existing traditional controls and necessitating a restructuring of social ties. Within this fluid situation monastic establishments provided anchorage and a base for the development of fresh social networks. Before discussing the western Deccan inscriptions which show an adherence to occupation groupings rather than a division based on the varna system, we shall examine literary references to the nature of society at this time.

The varna structure has been referred to in several texts compiled during the centuries around the Christian era. Kauṭalya in his *Arthaśāstra* maintains a four-fold division of caste and ascribes agriculture, cattle-rearing and trade to the vaisya (*vaiśya*) together with injunctions to bestow gifts, offer sacrifices and to study—duties which are common to the *dvijas*

(I.3.7). The sudra (*śūdra*) on the other hand, should engage himself in economic activities and in the professions of the artisan and the actor apart from the prescribed task of *dvijāti śuśrūṣā* or the service of the twice-born castes (I.3.8). A little later in the same section, Kauṭalya praises the beneficial qualities of agriculture, cattle-rearing and trade and stipulates that the king should encourage these (I.4.1–2). The *Manusmṛti* (I.88–91) follows the *Arthaśāstra* in this division, the only difference is that it allows the vaisya to lend money, but prescribes only one occupation to the sudra: to serve meekly. The activities of artisans are listed by Manu among the occupations of mixed varnas. In spite of the injunctions to the brahmaṇs and ksatriyas warning against the practice of agriculture, it states that learning mechanical arts, work for wages, service, rearing cattle, agriculture, receiving interest on money and alms are the modes of subsistence permitted to all men in times of distress (X.116).

Kosambi has suggested that sons by wives of different varnas would have to work for a living as servants or by some craft since they had neither *gotra* privileges nor the right of inheritance. This explains the curious presentation in the *Smṛtis* of professional guilds as mixed varnas (1960 : 217). The non-Sanskritic names of many of these mixed varnas mentioned by Manu (Chapter X) indicates that they were older tribes and occupational groups (Sharma, 1980 : 336) who were now assimilated into the varna structure. The *Vasiṣṭha Dharma Sūtra* (XVIII.7) shows an awareness of this complicated task when it asserts that men's sub-castes are to be known by their actions and occupations as it is difficult to assign particular derivations to groups of people. That this process of assimilation was continuous is sufficiently proved by the variation in the number of mixed varnas mentioned in the *Dharma Sūtras*. According to *Gautama* their number was eleven, while according to *Baudhāyana* it was fourteen. *Vasiṣṭha* mentions six mixed castes and *Āpastamba* only three (Jha, 1970 : 277). By the time of the *Manusmṛti*, Chapter X being ascribable to the late Gupta period, the number had risen to sixty-one (ibid. : 287).

Rigid varna conditions are nowhere reflected in the *Jātakas* which indicate a flexible varna structure. Brahmans and princes are known to carry on trade to make money (Bk.

XXI : nos. 537, 539). A brahman dwelling near the gates of Varanasi earned a living by killing wild animals (Bk. XXII : no. 543) and the Bodhisattva being born as the son of an outcaste woman became a king by his wise discourses (Bk. IV : no. 349). There is a mention of brahmans working as field labourers (Bk. V : no. 354); brahman farmers (Bk. VI : no. 389); a brahman carpenter (Bk. XIII : no. 475); and the daughter of the garland-makers becoming the chief queen of the King of Kosala (Bk. VII : no. 415).

There is a dichotomy of views on the subject and one group of scholars regards the varna structure as the official ideology which explained the superiority of higher groups in terms of a moral evaluation. The varna divisions were never the functioning groups of the social order, the principal groups of social interaction being families, lineages, clans and jatis. Thus within the varna structure, social mobility—both upwards and downwards—of jatis and jati groups was an accepted fact (Mandelbaum, 1972 : 23). The opposing view regards varna as being based on class divisions. 'It is likely that the whole thing as it was embodied in the Brahmanical law books may not have been applied literally, but unless evidence to the contrary is forthcoming it is difficult to believe that it was not observed in essence' (Sharma, 1953 : 321).

The Nasik inscription of Balaśrī refers to Gautamīputra Sātakarṇi as *dijāvarakuṭubavivadhana* (one who made the families of the twice-born and the low caste people prosper), *vinivatitacātūvaṇasaṅkara* (one who prevented the mixing of the four varnas), and *sātavāhanakulayasapatithāpanakara* (one who restored the fame of the Sātavāhana family, Senart, 1905–6 : 60–2). This adherence to the varna structure is in conformity with the need to ensure ritual purity. In private inscriptions varna identities appear to be tenuous and a majority of donors mention only their occupations and professions together with their place of residence. The few exceptions include an inscription at Kuda recording the gift of a caitya by Bhayilā, wife of a brahman *upāsaka* (Burgess and Indraji, 1976; reprint : no. 15). A hexagonal pillar inscription of the first century B.C. at Vadgaon-Madhavpur speaks of the performance of the Vajapeya sacrifice by a brahman of the Kaśyapa *gotra* (Sundara, 1981 : 88), while inscription 25 at Junnar records the gift of a *maṇḍapa* and cistern

by Ayama of the Vacha *gotra*, an *āmātya* of the Mahākṣatrapa Nahapāna (Burgess and Indraji, 1976, reprint : 51–2). The Kondivate caitya inscription records the gift of a railing by a brahman of the Gautama *gotra* (Jadhav, 1981 : 108).

Nor does varna seem to play a significant role in the choice of a profession. An epigraph at Amaravati mentions the gift of a slab by the leather worker (*cammakara*) Vidhika, son of the teacher (*upajhaya*) Naga (Lueders, 1912 : no. 1273). An inscription at Kanheri records the construction of a caitya by the merchants (*vāṇijaka*) born of . . . *khatiya* brothers Gajasena and Gajamita (ibid. : no. 987). However, too much emphasis should not be placed on this inscription because the middle portion is damaged and it is difficult to accept the continuity of the two halves.

The majority of donors stress only their occupations and represent a large cross-section of the society. These include : *seṇi* (guild, Burgess and Indraji, 1976, reprint : Junnar, no. 31); the *rājaveja* (the royal physician, ibid. : Pitalkhora no. 4); the *seṭṭhi* (ibid. : Karle no. 1, Kuda nos. 21, 28, 29); the *negama* (Burgess, 1883: Kaṇheri nos. 16, 18); artisans like the *manikara* (ibid. : Kanheri no. 20); and *suvaṇakokāra* (ibid. : Kanheri no. 3); the *kamāra* (blacksmith, ibid. : Kanheri. no. 30) the *lohavaṇij* (ironmonger, Burgess and Indraji, 1976, reprint : Kuda no. 20); the carpenter (ibid. : Karle no. 6); the *gādhika* (perfumer, ibid. : Karle no. 4, Pitalkhora no. 1); the fisherman (Senart, 1905–6: Nasik no. 8); the *mālākāra* (gardener, Burgess and Indraji, 1976, reprint: Kuda nos. 16, 26); and the writer (ibid. : Kuda nos. 1 and 9). Of these, the physician and the gardener followed their hereditary professions. The prosperity of the donors can be judged from the gifts which included caves (ibid. : Kuda nos. 1, 8, 9, 16, 20; Burgess, 1883 : Kanheri nos. 14, 16, 18, 19, 20), paths (Burgess, 1883 : Kanheri no. 30), cisterns (Burgess and Indraji, 1976, reprint : Junnar no. 28, Kanheri nos. 3, 10) and a caitya (ibid. : Junnar no. 4).

The *Pāraskara Gṛhya Sūtra* states that śarman is a proper term in a brahman name, varman in that of ksatriya and datta in a vaisya one (I, 17). A study of the western Deccan inscriptions shows little correspondence with this rule. Bodhisamā (Bodhiśarmā) is the mother of a merchant (Lueders, 1912 : 1001); the occupations of Sivasama (ibid. : 1173) and Asasama of Bharu-

kaccha (ibid. : 1169) are not mentioned and Bhadasama is a *bhikṣu* (Burgess and Indraji, 1976, reprint : nos. 15, 16). An Amaravati inscription mentions a Bodhisarman as the father of *vaniya* Mulasiri (Lueders, 1912 : 1213). Agnivarman is a Śaka and Viśvavarman is mentioned as a *gaṇapaka* (ibid. : 1137). Datta appears to be a popular suffix and seems to fit the rule. Sulasadata and Sivadata are mentioned as sons of the brother of a writer of Mahābhoja (Burgess and Indraji, 1976, reprint : no. 9); Sivadata is related to a *sārthavāha* (ibid. : no. 30); Purisadatta is the daughter of a *gahapati negama* (Senart, 1905–6 : no. 6); Sihadata is a perfumer of Dhenukākaṭa (Burgess and Indraji, 1976, reprint : no. 4); Indrāgnidatta is the name of a *yavana* (Senart, 1905–6 : no. 18) and Sulasadata and Samidata are *heraṇikas* of Kalyan (Burgess and Indraji, 1976, reprint : no. 30; Burgess, 1883 : no. 3). Ramadata's occupation is not mentioned (Burgess and Indraji, 1976, reprint : no. 23).

As expected, the majority of names suggest Buddhist affiliations, with very few traditional Śaivite and Vaishnava names (Sankalia, 1942 : 349–91). An aspect largely neglected and overlooked is the influence of the southern languages in the derivation of these names. The name Dāmilā occurs in three instances in the inscriptions at Kanheri (Burgess, 1883 : nos. 24, 25, 27) denoting three different people—the Bhojikī of Aparānta, a *bhikkhunī* of Kalyan, and the third referred to only as a wife. Dāmila is used in the *Mahāvaṃsa* and the *Jātakas* for the Tamils (Malalasekara, 1937 : 1061). A detailed discussion on this topic would entail a study of linguistics and is beyond the scope of this work.

An analysis of the list of donors can give an idea of their financial status. It is not surprising that a majority of the caves are donations by *seṭṭhis*, *gahapatis* or *negamas*. An increase in opportunities led to the prosperity of several occupational groups as is evident from the gift of a cave each by a *mālākāra* at Kuda (Burgess and Indraji, 1976, reprint : no. 16), a *lohavaṇij* also at the same site (ibid. : no. 20), a fisherman at Nasik (Senart, 1905–6 : no. 8) and a *manikara* at Kanheri (Burgess, 1883 : no. 20). Donations by monks and nuns and the sources of their wealth have already been discussed.

Women, both nuns and lay worshippers, frequently figure in the inscriptions as donors and make gifts either on their own

(Burgess and Indraji, 1976, reprint : Kuda nos. 18, 19; Karle no. 5; Kanheri no. 10; Senart, 1905–6: Nasik no. 19); or together with their husbands or sons (Burgess and Indraji, 1976, reprint : Kuda no. 30; Shelarwadi no. 1; Senart, 1905–6 : Nasik no. 6). The Nanaghat inscription of Nāyanikā describes the Vedic sacrifices performed by her and the large donations bestowed as *dakṣiṇā* (Burgess, 1883 : 60). The donation of Queen Balaśrī consisted of a cave on mount Tiraṇhu to the community of monks. For embellishment of the cave, the Queen's grandson granted a village (Senart, 1905–6 : 60).

A category of donors which requires explanation is that of Śakas and *yavanas*. Nasik nos. 26 and 27 record the gift of a cave and two cisterns by the Śaka Damachika Vudhika, a *lekhaka* (ibid. : 94–5). The majority of donations by *yavanas* occur at Karle and have been made by the inhabitants of Dhenukākaṭa (Vats, 1925–6 : nos. 4, 6, 10; Burgess and Indraji, 1976, reprint : nos. 7, 10) and one by a *yavana* from Umehanakaṭa which remains unidentified so far (Vats, 1925–6 : no. 1). At Nasik, Indrāgnidatta son of Dhammadeva the *yavana*, a northerner (*otarāhasa*) from Dattamitri, donated a cave, a caitya and cisterns (Senart, 1905–6 : no. 18). The inscriptions at Junnar record gifts by *yavana* donors of the Gata country, corresponding to Sanskrit Garta, i.e., part of Trigarta or Kangra (Burgess and Indraji, 1976, reprint : nos. 5, 7, 33). Unlike other donors of the western Deccan, the *yavanas* do not mention their occupations. It has been suggested that a reference to their occupation may have been considered unnecessary as they were probably exclusively traders (Dehejia, 1972 : 143).

Stein argues that from a social point of view '*yavanas* whoever they might have been' were absorbed by Indian society and it is unlikely that Greek colonies existed around the beginning of the Christian era (1934–5 : 356). Kosambi has, however, opposed this view and suggested that Deogadh on the opposite curve of hills from Karle be identified as Dhenukākaṭa and that a Greek settlement may have been situated at the site (1955 : 59). He has also read one donor's name as Milinda the physician instead of Mitidasa and suggests that he may also have been a *yavana* (ibid.). Sircar (1976 : 132) has pointed out that Dhenukākaṭa should not be confused with Dhānyakaṭaka, the ancient name of Amaravati.

It may be relevant here to point out certain motifs which appear in the early sculptural art of our period. *Fleur de lis* armlets may be seen at Bhaja vihara XIX, Pitalkhora (the sculpture is now in the Prince of Wales Museum, Bombay), paintings in caitya X at Ajanta, and at Sanchi and Bharhut (Dehejia, 1972 : 134). It has also been noticed at Begram on a ceramic vase shaped in the form of sphinx. The centaur motif occurs at Bhaja, Sanchi and Bodh Gaya while the sphinx is to be seen at Pitalkhora, Karle, Junnar and Nasik (ibid.). Kosambi (1955 : 57) considers these motifs to be of foreign derivation, though this view is questioned by Dehejia who regards them as belonging to the general repertoire of early Buddhist art (1972 : 221, fn 31).

On the evidence of Ptolemy who mentions sixteen emporia situated along the western and eastern coasts of India, Wheeler (1955 : 151–2) suggests that these may have been commercial ports with certain rights and privileges. The *Periplus* mentions Leuke Kome, an emporium on the eastern side of the Red Sea where a military post under a centurion was stationed to ensure that the Arabs respected Roman trading rights and to collect a duty of 25 per cent on imports (sec. 19). It is evident that western traders' privileges were differently safeguarded in the various foreign ports.

Strabo in his *Geography* states that commercial traffic to India considerably increased after the Roman invasion of Arabia Felix and that the merchants of Alexandria sailed with their fleets by way of the Nile and the Red Sea to India. He goes on to add that 'as many as one hundred and twenty vessels were sailing from Myos Hormos to India, whereas formerly, under the Ptolemies only very few ventured to undertake the voyage and to carry on traffic in Indian merchandise' (2.5.12).

It is necessary to quote Kauṭalya with regard to the policy of the state *vis-à-vis* the foreign merchant. The word 'foreign' is to be treated with caution. It should not be interpreted with its present day nationalistic meaning, but more in the sense of one who does not belong to one's own state. The *paṇyādhyakṣa* should encourage the import of goods produced in foreign lands (*para-bhūmijam paṇyam*) and to those who bring these goods in ships or caravans (*nāvika-sārthavāhebhyaśca*) he should grant exemptions. No law suit in money matters should be allowed against foreign

traders (*āgantūnām*), except such as are members of native concerns and their associates (*Arthaśāstra*, II.16.11–3).

Throughout the ancient world from China, India, Arabia and Mesopotamia to Greece and Rome, the movement of foreign merchants or travellers was considered a legitimate area for governmental, municipal or imperial intervention. Regulations and customs duties and various tolls were levied at each major town (Raschke, 1978 : 642).

Another factor in the development of trade that has not been sufficiently emphasized is the close relationship between landed wealth and commercial capital. It was possession of the former which made large-scale investment in public contracts, money-lending and trade possible. The actual day-to-day matters may have been in the hands of lesser men, some probably very wealthy (ibid.). The rise of the *gṛhapati* (Pali *gahapati*) in the north amply supports this contention. In Vedic society the *gṛhapati* was the head of a household consisting of three or four generations of the family together with some labourers and slaves who cultivated the family unit of land. Gradually the wealth of the *gṛhapatis* increased and Buddhist literature contains several references to rich *gṛhapatis* and prosperous *brāhmaṇa gṛhapatis* (*Saṃyutta Nikāya*, I.74) who invested their resources in trade, eventually to become *śreṣṭhins (Aṅguttara Nikāya*, IV.282; *Mahāvagga*, I.7.4; *Cullavagga*, VI.4.1).

A similar combination of occupations perhaps occurs in the inscriptions of the western Deccan also. Several epigraphs mention donations by *negama gahapatis* (Senart, 1905–6 : Nasik no. 6; Burgess and Indraji, 1976, reprint : Junnar no. 4); *gahapatiputa seṭhi* (Burgess and Indraji, 1976, reprint : Kol. no. 1, Kuda no. 21) and *gahapati sathavāha* (ibid. : Kuda no. 27). These householder-traders possibly carried on the occupations of both landowner and merchant. An inscription at Shelarwadi provides further evidence of this change. It records the gift of a cave by Siagutaṇikā, wife of the ploughman-householder (*hālika kuḍubika*) Usabhaṇaka, resident at Dhenukākaṭa, made jointly with her son *gahapati* Nanda. Kosambi interprets *hālika kuḍubika* to mean a person who had occupation rights to the land which he worked and was not a labourer. He was succeeded by his son, a *gahapati*, who obviously had a higher status than his father (Kosambi, 1955 : 69). The *Jātakas* refer to the Bodhisat-

tva as being born in a *kuṭumbikakula* and earning his living by selling grain (Bk. II : no. 249). This would then imply that merchants described as *negama gahapatis* owned land in the Deccan.

Merchants appear to have obtained considerable co-operation from the state. Uṣavadāta mentions the construction of rest houses and the establishment of free ferries by boats on the rivers Iba, Parada, Damana, Tapi, Karabena and Dahanuka (ibid. : 78–80). Other inscriptions record investments of money in guilds, the interest to be paid to the Sangha (ibid. : 82–5, 88). It has been suggested that the frequent occurrence of 'gupta' in the names of the *āmātyas* e.g. Śivagupta (ibid. : no. 4), Parigupta and Śivaskandha gupta (Burgess, 1964, reprint : no. 20) would indicate that they were vaisyas and possibly merchants (Sharma, 1969 : 112). Similarly *negamas* or merchants may have been associated with the civic administration of towns and in the management of *nigamasabhās*. The authority of these bodies seems to have been accepted by the state as well. The Nasik inscription of Uṣavadāta refers to the proclamation of a land grant in the *nigamasabhā* and its subsequent registration and embodiment into archives kept in the *phalakavāra* (Senart, 1905–6 : 82–5). Towns are also known to have made donations collectively, e.g. the *nigama* of Karāhakaṭa gifted coping stones at Bharhut (Lueders, 1912 : nos. 705, 891), while the *nigama* of Dhānyakaṭaka made donations at Amaravati (Chanda, 1919–20 : nos. 4, 5).

Unfortunately inscriptions provide no information on the rate of duties levied by the state on merchants or the revenue obtained by taxing traders. Strabo indicates the presence of officials for collecting taxes. The market commissioners maintained the roads, collected taxes and supervised crafts while the city commissioners were in charge of products made by artisans, sales and barter and collected a tenth part of the price of things sold (*Geography*, XV.1.50–1). The *Arthaśāstra* states, on *kṣauma*, *dukūla*, armours, yellow orpiment, red arsenic, antimony, metals of various kinds, sandalwood, ivory etc. the duty to be charged is one-tenth or one-fifteenth (II.22.6). On clothes, perfumes, medicines, wood, leather goods and grains, etc., the duty is one-twentieth or one-twentyfifth part (II.22.7).

The expansion of agricultural settlements and trade, both

internal and external, thus helped transform society in the Deccan from a loose conglomeration of several tribes to a unified political system under the Sātavāhanas. While this process may have commenced with the commercial exploitation of the region under the Mauryas, it perhaps accelerated with the increasing participation of ports along the west coast in the rising external demand. The growing power of the Sātavāhanas extended patronage to both Buddhism and the Brahmanical religion in a bid to establish firm control over newly-settled lands and to counter attacks by the Kṣatrapas. The resultant peace and expansion of trade is reflected in the inscriptions of the western Deccan which record donations not only by royalty but by prosperous occupational groups such as blacksmiths, iron-mongers, carpenters and fishermen as well.

CONCLUSION

The analysis suggested in this study would indicate that the rise of the Sātavāhanas coinciding with a proliferation of settlements in the western Deccan can in part be attributed to an expansion of internal, long-distance trade as well as increased overseas demand supported by the development of an agricultural base. The reasons for this expansion may be ascribed to both geographical and historical factors. As discussed in Chapter 1, the low rainfall areas of the western Deccan (which were relatively easier to traverse than the forested regions further east) formed a corridor linking the northern part of the subcontinent to the southern as early as the Chalcolithic period. It was about this time that the first agricultural settlements developed as indicated by the excavations at Daimabad. These early agricultural communities could, however, neither expand spatially nor demographically on account of several restraining factors. In the first place, the rivers of the western Deccan do not flow in valleys of their own erosion, but occupy fault planes or rifts in the plateau. Hence no extensive alluvial plains are available along their banks for agricultural exploitation. Secondly, the fertile black soil is restricted to relatively small pockets, and coupled with this is the uncertain rainfall with the middle stretches of the river valleys lying in an arid zone with less than fifty centimetres of precipitation annually.

Under these circumstances agricultural expansion would be slow and would have to be restricted to certain fertile pockets, e.g. the Maval and the Ulhas basin, and if these regions were to support urban centres intensive agriculture was a necessity. Intensive agriculture meant the cultivation of crops which could support larger populations, e.g. rice, a proper use of the iron plough (Kosambi, 1981 : 190), and irrigation facilities to increase per unit yield. Studies have shown that the yield per unit even of rabi crops like jowar and wheat almost trebles with the use of irrigation (*Gazetteer of Bombay State*, Poona district,

1954 : 174). While the use of a plough with an iron ploughshare may not be essential (Dhavalikar, 1973 : 143) for a crop like jowar, it would certainly be required for rice cultivation and deep ploughing would become necessary for sugarcane (*Gazetteer of Bombay State*, Poona district, 1954 : 217). The black soil is a problematic one and sagacious use of irrigation is essential. On account of its high moisture retention it becomes difficult to work when water-logged, at the same time a certain amount of moisture is essential for the growth of the crops. To add to the uncertainties of agricultural production is the scarcity of water in the region. As early as 1000 B.C. there is evidence for an increase in aridity in the western Deccan resulting in the abandonment of several sites. The beginning of the subsequent Iron Age led to a shift in occupation to Vidarbha, known for its rich iron-ore reserves. Excavations at a large number of Megalithic sites in Vidarbha have unearthed a variety of iron tools and implements as well as an iron-smelting furnace. An analysis of these iron objects confirms that local iron ore was used in their manufacture (Deo, 1982 : 29).

We have argued that together with nomadic pastoralism, agriculture also formed an important component of the Megalithic economy, though the transition from the Megalithic to the Early Historical period is still a perplexing question and far from clear. Recent archaeological data from Bhagi Mahari and Khairwada in district Nagpur indicates continuous occupation of the sites from the Megalithic to the Sātavāhana period. In the western Deccan there is a distinct black-and-red ware horizon associated with the use of iron at several sites in the Narmada and Tapti valleys, such as Prakash, Bahal and Navdatoli. Little is known about the economic activities of these communities though the presence of agricultural settlements in the pre-Mauryan period in the western Deccan is indicated by literary texts. Great authenticity is claimed for the story in the *Sutta Nipāta* (1011–13) of a brahman from Kosala who left Sravasti to settle in the *dakṣiṇāpatha* with his disciples. Initially they subsisted by food gathering, but gradually took to agriculture and a *grāma* came into being in the neighbourhood. It is likely that these early agricultural settlements received a stimulus with the commencement of long-distance trade under the patronage of the Mauryas. This development may be

studied at another level at which religion also plays a role.

The rise of heterodox religions[1] in the subcontinent in the middle of the first millennium B.C. helped to encourage new economic activities. In the absence of material wealth used in the sacrificial ritual, part of the surplus wealth that had hitherto been consumed in elaborate *yajñas* was now available for exchange and investment. Buddhism, owing to its relatively liberal rules regarding social status and the counting of wealth, provided a suitable social environment for facilitating long-distance trade. It neither bound a person by dietary taboos nor banned interdining with social inferiors. Hence on prolonged journeys a trader was not obliged to observe the strict varna rules on the type of food permitted or the category of people whose hospitality could be accepted without compromising ritual purity. The impact of the Hindu and Buddhist religions on the social environment may still be seen in the Himalayan highlands where the predominantly Buddhist Bhotia groups including the sherpas stand in marked contrast in their entrepreneurship to the Hindus of Nepal (Fuerer-Haimendorf, 1975 : 286–305):

> Anyone who has travelled in rural Nepal has experienced the difference in the attitudes of Buddhist and Hindu communities. In the former it is easy to gain entrance to houses and offers of hospitality are usually freely forthcoming while in the Hindu villages no stranger is admitted to a private house and even his attempts to purchase victuals often meet with difficulties . . .(ibid. : 289).
>
> High-caste Hindus enmeshed in the net of family and caste obligations and bound by caste rules adding to the discomfort and hazard of travel outside their home ground, may well find the life of long-distance traders distasteful . . . . Seeing merit above all in personal austerity and strict conformity to caste rules they lack the initiative which induces Bhotia traders to devote their wealth to the construction of religious monuments, the endowment of monasteries and the acquisition of prestige by the conspicuous dispensation of hospitality and charity.

[1] We shall restrict ourselves to Buddhism here as Jainism had no significant role to play in our area of study around the beginning of the Christian era. An epigraph from Karle which starts with the words *'namoarahatanam'* has been taken as evidence for the spread of Jainism to western India at an early date, but this claim has been contested (Dehejia, 1972 : 222, fn. 25). Similarly there are no indisputable indications whereby the Chambhar Leni Jaina caves at Nasik may be dated to the fourth century A.D.

This spirit of entrepreneurship encouraged by Buddhism when coupled with the patronage provided by the Mauryan state led perhaps to an increase in long-distance trade both by land and by sea. The search for mineral resources may have led to the commercial exploitation of the peninsula for gems and gold. Pali texts and the *Arthaśāstra* show greater familiarity with gems and semi-precious stones than early Sanskrit literature, and the probable source of some of these must have been the Deccan (Lad, 1978 : 293). Once the peninsula, notably the gold mines around Maski in the Raichur district and the diamond mines at Yerragudi in the district of Kurnool, was opened up, the strategic location of the western Deccan offered immense possibilities of exercising control along the routes used for commercial traffic.

The importance of the western Deccan lay in its central location, ideally suited to control routes from Karnataka and the lower Krishna basin either to the ports on the west coast or those going further north. Besides, the Deccan plateau is not as inhospitable as it would appear. It is well served by passes making natural routes across the region, and the west coast has a number of inlets and creeks which provide safe anchorage to sea-going vessels. The Mauryan period thus resulted in the development of the looping trade (Maloney, 1968) along the east and west coasts. At this time a certain amount of overseas trade is also attested to though this may have been primarily under Arab control. Together with this there was an increase in traffic along the overland route from Paithan to Maheshwar, Ujjain, Sravasti and Vaisali. This route had off-shoots going into the lower Krishna valley as well. Mauryan remains have been found all along this route and further corroboration of its use may be seen in the *Arthaśāstra* which considers land routes more suitable to trade than sea routes (VII.12.24).

These trading circuits of the Mauryans seem to have continued in the subsequent period though in an altered form with considerably diminished state control. Coins bearing names of cities such as Mahiṣmati, Tagara and Tripuri have been referred to and the inscriptions at Bhattiprolu mention *nigamas* or market towns. In Chapter 3 we discussed the evidence suggesting a general expansion in trade in the first century B.C., both long-distance overland and overseas Roman trade. This

expansion led to the development of several new ports along the west coast in addition to Bharuch and Sopara. These ports were linked to the hinterland by means of passes along the Ghats and the prosperity of the hinterland closely depended on that of the port. Thus the silting up of Sopara towards the end of the Sātavāhana period resulted in the possible discontinuation of the Nanaghat route leading to abandonment of the large monastic complex at Jùnnar. This perhaps explains why there are no indications of later Mahayana occupation at Junnar, in spite of the fact that with more than 175 rock cut caves spread over several hills Junnar was the largest monastic establishment under the Sātavāhanas. Similarly, with the growth of the port of Surat in the medieval period the trans-peninsular route from Masulipatam in the lower Krishna valley via Bezwada, Hyderabad, Bidar, Ahmadnagar, Aurangabad and then through the Kondaibarighat to Surat gained importance (Habib, 1982 : 14B, 15B). A recent parallel is the rise to prominence of the Ulhas basin because of the prosperity of Bombay.

The enormous influence that geographical factors have had on the history of the western Deccan is emphasized by the fact that many of the present arterial routes correspond to their ancient counterparts. Thus Nasik lies on the national highway no. 3 which connects Bombay to Agra through the Thalghat past Kalyan and Bhopal, not far from Sanchi. The road from Bombay to Junnar continues to use the Nanaghat. Similarly the Bhorghat is still the only pass across the Western Ghats connecting Pune to Bombay past a series of early Buddhist caves such as Shelarwadi, Bedsa, Bhaja, Karle, Ambivale and Kondane. Another ancient but still used route connects Karnataka through Kolhapur via Karad and Pune with Bombay.

As a result of renewed interest in external trade in the medieval period several sites along these routes came to be re-occupied and at times altered to suit contemporary needs. This is particularly true of Buddhist cave sites. Thus the caitya at Shelarwadi is now a Śaiva shrine, while the vihara at Ambivale has been converted into a temple for Vithoba. Caves at Lenyadri and Shivneri at Junnar and at Nanoli have also undergone later modifications, and in front of the caitya at Karle there now stands a shrine of Eka Vira. Owing to later

depredations at cave sites around Bombay and further south along the coast at Chaul, it is difficult to ascertain the Buddhist character of the caves.

Another feature of the medieval period was the construction of forts in the neighbourhood of cave sites, emphasizing the strategic location of the caves. Thus the fort at Shivneri encloses within its walls the earlier Buddhist caves, while the Naranagad fort lies fifteen kilometres south-east of Junnar. Lohagad and Visapur forts are located in the vicinity of Bhaja and Rajmachi fort is close to Kondane (*Gazetteer of Bombay State*, XX : 172, 619–25.).

Geographical factors may have influenced the economy in another way as well. As discussed in Chapter I the rugged terrain coupled with uncertain rainfall has made the western Deccan an area of overall low agricultural productivity. The gross value of output per hectare in Maharashtra is roughly three-fifths of the average for the rest of the country (Singh, 1971 : 713). Thus dependence on trade may have been necessary to supplement the yield from agriculture. Alternatively subsistence agriculture had to be supported by 'cash crops'. Kosambi (1981 : 189) has suggested that the real cause of the development of the Konkan coast was the cultivation of the coconut tree. The coconut could be used in a variety of ways, e.g. for wood, fibre, wine, oil and for eating. Together with salt it formed a valuable product of the west coast which could be traded for grain, cloth and utensils with regions further inland.

A perusal of the *Periplus* (sec. 49) shows that external demand was primarily for raw materials such as the different varieties of woods, e.g., ebony, teak, blackwood, sandalwood and bamboo; aromatics such as bdellium, spikenard, costus, lycium and saffron; spices like long-pepper, malabathrum and cinnabar; dyes such as indigo and lac; and semi-precious stones like agate, red jasper, carnelian and onyx. Cloth was perhaps the only item which required manufacture. As discussed in Chapter 4, the majority of these products were locally available in the Deccan and did not involve either long-distance transportation or elaborate and complex processes of manufacture. What is more important is that the *Arthaśāstra*[2] shows an acquaintance with

[2] A majority of these commodities occur in Bk. II of the *Arthaśāstra* dated by Trautmann (1977 : 174) to the second century A.D.

and use of most of these commodities. It thus corroborates the evidence from the *Periplus*. The resulting prosperity led to a proliferation of crafts and an improved standard of living as is evident from archaeological excavations at Sātavāhana sites.

It would seem that as a result of these early beginnings of trade and the enormous stake that the Sātavāhanas had in its continuation, an elaborate system of procurement and transportation developed. This system was dominated either by local merchants individually or by guilds. At the same time inscriptional and sculptural evidence would indicate the *yavana* presence. Commercial transactions were based on a monetary system for large hoards of Sātavāhana coins have been found extensively in the Deccan, Roman gold and silver coins being presumably used as high-value currency better suited to the needs of the luxury trade. We have seen that the western Deccan trade was in both essential as well as luxury goods and the requirements of the former could be fulfilled by Sātavāhana coins both of lead and potin. A perplexing question is the paucity of Roman coins in the western Deccan compared to areas further east and south. We sought to explain this by suggesting that perhaps due to historical reasons 'foreign' merchants had a lesser grip on local transactions in the western Deccan. Besides Sātavāhana coinage may have been adequate to meet the demands of trade. The situation may have been different in the eastern Deccan where foreign traders may have been able to introduce Roman currency in circulation.

The development of a state from a tribal system of organization may at times appear to be a continuous process though the change entails a basic alteration in the manner in which the authority of the leadership is enforced and upheld. We have used the term 'tribal system' to refer to a spectrum ranging from primitive segmentary tribes to the more advanced chiefdoms. What these have in common is the generalized nature of economic and social functions. In a tribal system authority cannot be enforced but is dependent on the goodwill of members of the tribe and on traditional ties. In the absence of coercive powers traditional bonds can only be established and maintained by gift-giving and the redistributive mechanism. The redistributive network also functions as an inbuilt control system inhibiting the accumulation of wealth in the hands of a few (Webb, 1975 : 178–9).

It has been suggested that a similar situation prevailed in the western Deccan prior to the Mauryan penetration and in Chapter V we have discussed in some detail archaeological and literary references indicating the existence of tribes in the peninsula. The Vidarbha Megalithic people with their control on the sources of iron were best suited to attain a dominant position. Iron tools could be used to clear forests and to expand agricultural settlements in the river valleys, and with increasing Mauryan interest in the mineral resources of the peninsula the situation in the western Deccan was ripe for change. This gradual process perhaps culminated in the ascendancy of the Sātavāhanas in the first century B.C. and not in the third century B.C. as propounded by some scholars.

Disruption of the tribal people and their merger into a general agrarian society would not have been possible merely by winning over the chief and a few leading members. The way people satisfied their daily needs had also to be changed for the caste-class structure to work . . . . The brahmins here acted as pioneers in undeveloped localities (ibid. : 172).

Kosambi has underestimated the role of monasteries in this regard and has limited it to the accumulation and supply of capital for trade. The location of early monastic establishments in the fertile upper Godavari and Bhima valleys, in close proximity to the passes, belies this claim and stresses their involvement both in trade and agriculture. We would also differ with Kosambi in assigning a direct role in trade to monasteries at this period. In Chapter 4 it has been shown that land and money donations to monasteries occur only from the first century A.D. onwards, the earlier donations at Bhaja Pitalkhora and Ajanta being modest in nature including cells, cisterns and the like. It is conceivable then that in the first century B.C. the monasteries acted as pioneers and as centres providing information on cropping patterns, distant markets, organization of village settlements and trade. They also helped establish channels of communication in newly-colonized regions and these channels could then be used by the state to enforce its authority. A third function may have been in providing anchorage in an environment characterized by the changing alignment of social ties. As the prosperity resulting from

trade reached its zenith in the first century A.D., the role of monasteries may have changed and they may have been able to accumulate wealth.

The possible tribal origins of the Sātavāhanas as well as that of a majority of the population, and the need to gain acceptance in the varna structure prevalent in the north, resulted in what might seem to be a contradiction. The donors at the Buddhist caves recorded only their occupations and made no mention of their varna affiliations. On the other hand the early inscriptions of the Sātavāhanas mention the performance of Vedic sacrifices and the giving of large donations to brahmans (Lueders, 1912 : no. 1112). Gautamīputra Sātakarṇi is eulogised as a strong adherent of ritual purity or *vinivatitacātūvaṇa saṃkara* (Senart, 1905–6 : 60–2). This ritual display on the rulers' part became necessary as they could no longer rely on tribal ties to enforce authority. Besides, a fictitious genealogy made up with the help of brahmans was essential to establish their place in the varṇa hierarchy. It is possible that the Sātavāhanas may have been a priestly clan who on attaining power aspired to brahman ancestry. Similarly the recording of donations by different occupational groups at the cave sites may be seen as a means of stating their economic power which in turn would determine their position in the new social hierarchy. This process of social transformation is attested in several periods of Indian history and as late as the eighteenth century which saw state formation in the tribal belt of central India (Sinha, 1962 : 35–80).

The prosperity ushered in by trade and the need to control trade routes is apparent in the choice of sites by the Sātavāhanas for their earliest inscriptions. Nasik was the nodal point for routes leading inland from the west coast as well as from the lower Krishna valley across the peninsula to Bharuch. Thus, starting from *dakhināpathapati*, the Sātavāhanas gradually expanded their domain which extended from Gujarat and Malwa to Vidarbha, and as far south as the river Godavari during the reign of Gautamīputra Sātakarṇi. In the post-Gautamīputra period there was a gradual expansion both into the eastern Deccan and south into the Karnataka region, though it is likely that some of the regions in the north-western Deccan passed into the hands of the Kṣatrapas who had been a constant threat

to the Sātavāhanas. Inscriptional evidence indicates internal plurality of political control. Thus the Mahārathīs and Mahābhojas who were possibly chieftains had marital connections with the Sātavāhanas and a similar relationship may have existed with the Cuṭukula. The tribal origins of the dynasty and the need to maintain alliances with kin groups as per traditional rules as opposed to the organizational requirements of a state system would have placed enormous strains on Sātavāhana polity. Under these circumstances their recourse to religious institutions would seem natural.

The development in the sculpture and architecture of the western Deccan caves provides a means of documenting the gradual increase in the prosperity of these monastic establishments. The development of the caitya from modest beginnings at Bhaja to the ornate caitya at Karle has been studied by several scholars and is well known. From about the third century A.D. there seems to have been a lull in rock-cutting, and this period corresponds to the decline of the Sātavāhanas as well as a decrease in external trade because of the decline of the Roman Empire. While diminishing resources from trade may be taken as a valid reason for the break in rock-cutting it would also appear that the nature of Buddhism was undergoing a change. It has often it would seem erroneously been said that Hinayana Buddhism declined in the western Deccan with the fall of the Sātavāhanas, all the later rock-cut caves being ascribed to the Mahāyāna sect. This transition may be observed in the caves at Junnar, Kanheri, Karad, Kuda, Mahad and Shelarwadi (Dhavalikar, 1970–1 : 50–61). The characteristic Hinayana caves consisted of two types of monuments—the caitya and the vihara, the former generally apsidal in plan with a stupa at the back, while the vihara was a squarish hall with cells on three sides. In the Mahayana period these two were combined and except in a few instances the residential cells for the monks were made in the side walls of the caitya (ibid.). Further research to analyse socio-economic change during the Gupta-Vākāṭaka period would enable us to understand the changes in the role of Buddhism in the region and the reasons for this modification in the layout of the caves. It would appear that there was a marked difference in the nature of the patronage as well, the Mahayana caves owing their existence almost

solely to royal largesse as no inscriptions at Ajanta or Ellora record donations by lay people or traders. Was there then a change in the balance of power between the state, religious institutions and the laity leading to a realignment between them?

Another source which has been largely neglected so far in Early Historical research is the evidence from archaeology. In addition to its accepted usefulness in solving problems relating to chronology, settlement patterns, the layout of habitation areas, proliferation in crafts and changes in the modes of their production, archaeology can also aid in documenting social change, for instance at sites which show a transition from the Megalithic to the Sātavāhana period. Anthropological research in modern societies has shown that the preparation of food including the way it is eaten and the utensils used differ not only regionally but also by group (Karve, 1968 : 3). While availability may be a determining factor it also has associations with prestige and status. For example in eastern Andhra both rice and a variety of small millet are grown. The farmer eats the latter grain and sells the rice to the cities where rice-eating has status value (ibid. 2). Another important distinction is the way in which a socially 'inferior' group would attempt to adopt the life-style of a socially 'superior' group for better acceptance. Initial results from the Vidarbha region show that the material assemblage of the Sātavāhana period suggests a clear break with Megalithic traditions. Horizontal excavation at such sites may provide data on distinctions in food habits and ceramic usage within the site which could then be compared with the results from Megalithic levels as well as those from sites further north. This would not only substantiate the hypothesis of social change outlined in this study but would also indicate how influences from the north and a greater adherence to the varna structure altered the life-style of the tribal population.

APPENDIX I

LIST OF SĀTAVĀHANA KINGS IN THE *VĀYU* AND *MATSYA PURĀṆAS*

Ordinal no. in text		King	Length of reign (years)	
Vāyu	*Matsya*		*Vāyu*	*Matsya*
1	1	Simuka	23	23
2	2	Kṛṣṇa	18	18
	3	Sātakarṇi I		10
	4	Pūrṇotsanga		18
	5	Skandastambhi		18
3	6	Sātakarṇi II	56	56
	7	Lambodara		18
4	8	Āpīlaka	12	12
	9	Meghasvāti		18
	10	Svāti		18
	11	Skandasvāti		7
	12	Mṛgendra		3
	13	Kuntalasvāti		8
	14	Svātikarṇa		1
5	15	Puḷumāvi I	24	36
6	16	Gaurakṛṣṇa	25	25
7	17	Hāla	1	5
8	18	Maṇḍulaka	5	5
9	19	Purīndrasena	21	5
10	20	Sundara-svātikarṇi	1	1
11	21	Cakora Svātikarṇa	1/2	1/3
12	22	Śivasvāti	28	28
13	23	Gautamīputra Sātakarṇi	21	21
	24	Puḷumāvi II		28
	25	Śiva Śrī		7
	26	Śiva Skanda		7
14	27	Yajña Śrī	29	29
15	28	Vijaya	6	6
16	29	Candra Śrī	3	10
17	30	Puḷumāvi III	7	7

Source: Yazdani, 1960 : 112

APPENDIX II
DATED INSCRIPTIONS OF THE SĀTAVĀHANAS AND THE KṢATRAPAS

King	Location	Dates (Dehejia, 1972)	Remarks	Reference
Kanha Sātavāhana	Nasik XIX	100–70 B.C.	2nd half of 1st cent. B.C. Sircar, 1964 : 189	Burgess, 1964 : 98
Sātakarṇi I	Nanaghat	70–60 B.C.	Inscription of Nāyanikā	Burgess, 1883 : 60–1
Sātakarṇi I	Nanaghat	70–60 B.C.		Ibid. : 64
Sātakarṇi II	Sanchi gateway	50–25 B.C.	By foreman of artisans	Lueders, 1912 : 346
Nahapāna	Karle *caitya*	A.D. 54–100	By Uṣavadāta	Burgess, 1964 : 101
Nahapāna	Nasik X	A.D. 54–100	”	Ibid. : 99
Nahapāna	Nasik X	A.D. 54–100	”	Ibid. : 101
Nahapāna	Nasix X	A.D. 54–100	By Uṣavadāta in year 42	Ibid. : 102
Nahapāna	Nasik X	A.D. 54–100	2 inscriptions by Uṣavadāta's wife	Ibid. : 103
Nahapāna	Junnar	A.D. 54–100	By minister in year 46	Ibid. : 103
Gautamīputra Sātakarṇi	Nasik III	A.D. 86–110	In year 14	Ibid. : 104
Gautamīputra Sātakarṇi	Nasik III	A.D. 86–100	A.D. 106–130, Sircar, 1964 : 197; postscript in year 24	Ibid. : 105–6

King	Location	Dates (Dehejia, 1972)	Remarks	Reference
Gautamīputra Sātakarṇi	Karle *caitya*	A.D. 86–100	Damaged; read as in year 1(4) or 1(8)	Ibid. : 112
Puḷumāvi	Nasik XXV	A.D. 110–38	In year 2	Ibid. : 107
Puḷumāvi	Nasik II	A.D. 110–38	In year 6	Ibid. : 107
Puḷumāvi	Karle *caitya*	A.D. 110–38	In year 7	Ibid. : 107
Puḷumāvi	Nasik III	A.D. 110–38	By Balaśrī in year 19	Ibid. : 108–9
Puḷumāvi	Nasik III	A.D. 110–38	Postscript in year 22	Ibid. : 110–111
Puḷumāvi	Karle II	A.D. 110–38	In year 22	Ibid. : 113
Puḷumāvi	Amaravati	A.D. 110–38	Fragmentary	Burgess, 1887 : 100
Vāsiṣṭhīputra Sātakarṇi	Kanheri	A.D. 138–45		Burgess, 1883 : 78
Śiva Śrī Puḷumāvi	Banavasi		2nd half of 2nd cent. A.D.	Murthy & Bhat, 1975 : 34–9
Śiva Skanda	Amaravati	A.D. 145–52	Read as Sivamakasada	Burgess, 1887 : 61
Yajña Śrī	Nasik XX	A.D. 152–81	In year 7	Burgess, 1964 : 114
Yajña Śrī	Nanaghat	A.D. 152–81	In year 13	Indraji, 1883 : 313
Yajña Śrī	Kanheri LXXXI	A.D. 152–81	In year 16	Burgess, 1883 : 79
Yajña Śrī	Chinna, dt. Krishna	A.D. 152–81	In year 27	Lueders, 1912 : 1340
Yajña Śrī	Kanheri *caitya*	A.D. 152–81	Fragmentary	Burgess, 1883 : 75
Vijaya Sātakarṇi	Nagarjunakonda		In year 6	Sircar, 1964 : 521
Candra Śrī	Kodavolu, dt. Godavari			Lueders, 1912 : 134

Appendix II (Continued)

King	Location	Dates (Dehejia, 1972)	Remarks	Reference
Puḷumāvi II	Myakadoni, dt. Bellary		In year 8	Sukthankar, 1917–18 : 153
Abhira Īśvarasena	Nasik X		In year 9	Burgess, 1964 : 103
Māḍhariputra Śakasena	Kanheri XXXVI		In year 8	Burgess, 1883 : 79
Hāritīputra Sātakarṇi	Banavasi		2nd cent. A.D.	Buehler, 1885 : 331–4
Hāritīputra Sātakarṇi	Malavalli			*Epigraphia Carnatica* VII : 251

APPENDIX III
EARLY HISTORICAL SITES IN THE WESTERN DECCAN

Site	Antiquities	Remarks	Reference
Ahmadnagar District			
Astagaon	EH black & red ware		*IAR 1960–61* : 19
Bhalaumi	,,		,,
Brahmangaon-bhand	Dull red, black slipped wares		*IAR 1959–60* : 30
Chandegaon	,,		,,
Chincholi	,,		,,
Daradgaon	EH black & red ware		*IAR 1960–61* : 19
Deolali	Dull red, black slipped wares		*IAR 1959–60* : 30
Ganjibhovaro	EH black & red ware		*IAR 1960–61* : 19
Gatewadi	,,		,,
Honga	,,		,,
Jategaon	,,		,,
Kanadgaon	Dull red, black slipped wares		*IAR 1959–60* : 30
Kesapur	,,		,,
Kolhar-khurd	,,		,,
Kopre	,,		,,
Londikolyachi-Haveli	EH black & red ware		*IAR 1960–61* : 19
Mahenduri	,,		*IAR 1959–60* : 71
Mahisgaon	,,		*IAR 1960–61* : 19
Manjrikangar-budrukh	Dull red, black slipped wares		*IAR 1959–60* : 30
Manjrikangar-khurd	,,		,,
Manori-Renapur	Dull red, red slipped wares		*IAR 1958–59* : 15
Nevasa Pds. IV, V	Black & red, NBPW, RPW, Russet coated painted ware, Rouletted ware, amphorae sherds, etc.	54×43.5 m excavated	*IAR 1960–61* : 21 Sankalia, *et al.*, 1960
Nighoj	EH black & red ware		*IAR 1960–61* : 19
Nimbhere	Dull red, black slipped wares		*IAR 1959–60* : 30
Palwe-khurd	EH black & red ware		*IAR 1960–61* : 19

Site	Antiquities	Remarks	Reference
Pathre-khurd	Dull red, black slipped wares		*IAR 1959–60* : 30
Pimpalgaon-fungi	”		”
Pimprivalan	”		”
Rayatale	EH black & red ware		*IAR 1960–61* : 19
Sirkanegaon	”		”
Songaon	Dull red, black slipped wares		*IAR 1959–60* : 30
Sultanpur	EH black & red ware		*IAR 1960–61* : 19
Thadi	”		”
Vadner-budrukh	”		”
Vaghunde-khurd	”		”
Valwane	”		”
Vambori	Dull red, red slipped wares		*IAR 1958–59* : 15
Wavrat	EH black & red ware		*IAR 1960–61* : 19
Amaravati District			
Bhatkuli	EH black & red ware		*IAR 1962–63* : 14
Chamak	”		”
Kaundinyapura	RPW, red ware, Russet-coated painted ware, black & red, black, black slipped wares	2 mounds 2.3 ha. 1.9 ha.	Dikshit, 1968
Aurangabad District			
Akola	Sātavāhana structural remains		*IAR 1955–56, 1967–68*
Apegaon	Destroyed by pits	2 ha.	Ghosh, 1981
Bhokardan	RPW, kaolin ware, coarse red, red slipped, black & red wares	7 ha.	Deo & Gupte, 1974
Dukarne	Rotary quern, beads, pottery		*IAR 1972–73* : 20
Kausan	Ring-wells, coins, beads, kaolin figurines		*IAR 1965–66* : 28
Paithan	Coins, beads, legged querns, kaolin figurines	5 ha.	*IAR 1965–66* : 28

Site	Antiquities	Remarks	Reference
Bhandara District			
Pauni	RPW, fine grey ware, dull red, red slipped, kaolin wares		Deo & Joshi, 1972
Ramtola	RPW, stone images of mother goddess		*IAR 1969–70* : 20
Bharuch District			
Andhi	RPW		*IAR 1957–58* : 66
Bharbhut	RPW, coin		*IAR 1967–68* : 12
Bharuch	RPW, NBPW, black & red ware		*IAR 1959–60* : 19
Chanehvel	EH mound		*IAR 1965–66* : 12
Chavaneshvar	EH mound		*IAR 1966–67* : 9; *1967–68* : 12
Gandhara	EH mound		*IAR 1965–66* : 12
Juni	RPW		*IAR 1957–58* : 66
Kadiya Dungar	EH		*IAR 1966–67* : 10
Kantyajala	RPW		*IAR 1957–58* : 66
Mathwagha	EH		*IAR 1966–67* : 9; *1967–68* : 12
Nagal	Black & red ware		*IAR 1961–62* : 11
Surpan	Kaolin ware, sprinklers		*IAR 1980–81* : 11
Trankal	EH		*IAR 1977–78* : 19
Buldhana District			
Deulgaon Raja	Votive tank, black & red ware		*IAR 1981–82* : 248
Lonar	Shell bangles, red ware		*IAR 1981–82* : 248
Sindkhed Raja	Red ware		*IAR 1981–82* : 249
Tarapur	RPW		*IAR 1981–82* : 249
Chandrapur District			
Bhandak	Black & red ware, saddle quern		*IAR 1981–82* : 249
Udapur	Brick structure, terracotta figurine		*IAR 1978–79* : 16

Site	Antiquities	Remarks	Reference
Anturli	Black & red ware, red slipped wares		*IAR 1957–58* : 24
	Black & red ware		*IAR 1958–59* : 24
Chinchoda	Black & red, red slipped wares		*IAR 1957–58* : 24
Dhadne	"		"
Korat	RPW		*IAR 1958–59* : 24
Kothali	Black & red, red slipped wares		*IAR 1957–58* : 24
Lonkhed	RPW		*IAR 1957–58* : 24
Mudavad	Black & red, red slipped wares		*IAR 1957–58* : 24
Nasarpur	Black & red ware		*IAR 1958–59* : 24
Pimplod	Black & red, red slipped wares		*IAR 1957–58* : 24
Prakash	RPW, NBPW, black & ware	7.8 ha.	Thapar, 1967
Sawalda	Black & red ware		*IAR 1959–60* : 37
Shala	"		*IAR 1958–59* : 24
Thalner	Black & red, red slipped wares		*IAR 1957–58* : 24
Vyaval	RPW		*IAR 1958–59* : 24
Jabalpur District			
Tripuri	NBPW, kaolin and stamped wares	Several rolling mounds	Dikshit, 1955
Jalgaon District			
Bahal	RPW, NBPW, black & red ware		*IAR 1956–57* : 17
Hankari	Black & red ware		*IAR 1969–70* : 23
Nimkhed	"		*IAR 1958–59* : 23
Kolaba District			
Mandad	"		*IAR 1978–79* : 98
Thanale cave III	7 silver punch-marked coins		*IAR 1979–80* : 103

Site	Antiquities	Remarks	Reference
Kolhapur District			
Brahmapuri (Kolhapur)	RPW, black burnished and kaolin wares		Sankalia & Dikshit, 1953
Nagpur District			
Adam	Brick structures, legged querns		*IAR 1975–76* : 86
Mandhal	Black & red ware, ring-wells, brick structures		*IAR 1970–71* : 24; *1975–76* : 36
Nagardhan	Pottery, terracotta figurines		*IAR 1981–82* : 251
Nasik District			
Nasik	RPW, NBPW, Russet-coated painted ware, Rouletted ware, black & red ware	mound 2.9 ha.	Sankalia & Deo, 1955
Talegaon	Brick		*IAR 1970–71* : 57
Osmanabad District			
Irle	—	3.24 ha.	*IAR 1974–75* : 32
Ter	RPW, NBPW, black & red ware		Chapekar, 1969
Vadgaon	Brick stupa		*IAR 1957–58* : 66
Pune District			
Agar			Jadhav, 1981
Junnar			”
Khed	RPW		*IAR 1956–57* : 81
Kusur			Jadhav, 1981
Manikdaha			”
Nirgude			”
Padli			”
Songaon	Black & red ware		*IAR 1964–65* : 27
Udapur			Jadhav, 1981
Purna valley			
Assnegaon	Black & red, red slipped wares		*IAR 1965–66* : 27

Site	Antiquities	Remarks	Reference
Bahadarpur	Black & red, red slipped wares		*IAR 1965–66* : 27
Belora	,,		,,
Brahmi-budrukh Man	Black & red, red slipped wares		
Tuljapur Garhi	,,		,,
Satara District			
Karad	Ring-wells, tiles, beads		Explorations at Karad, Poona, 1949
Nerle	RPW, black & red ware		*IAR 1956–57* : 81
Wai	Sātavāhana antiquities		*IAR 1968–69* : 20
Surat District			
Dhatva	RPW, black & red ware, amphorae sherds	7 ha.	*IAR 1967–68* : 19
Jokha	RPW, NBPW (one sherd), Black & red ware	2 ha.	Mehta, *et al.*, 1971
Kalavvra	Red & black ware		*IAR 1979–80* : 100
Kamrej	Black & red ware		*IAR 1958–59* : 71
Warthan	Black & red ware		*IAR 1961–62* : 14
Thane District			
Gas	Microliths, EH pottery		*IAR 1955–56* : 72
Kalyan	RPW, beads		*IAR 1957–58* : 67
Sopara	Ring-wells, fortification wall		Contractor, 1957
Wardha District			
Paunar Pd. II	RPW, black & red ware, amphorae fragments		Deo & Dhavalikar, 1968
West Nimar District			
Kasrawad	NBPW, black & red ware		Diskalkar, 1949
Maheshwar-Navdatoli	RPW, black & red ware, black slipped, coarse red wares		Sankalia, *et. al.*, 1958

APPENDIX IV
INSCRIPTIONS MENTIONING LAND-GRANTS AND MONEY DONATIONS

Location	Donor	Donee	Details	Reference
Nanaghat	Nāyanikā	*Brāhmaṇas*	Gift of *gāmas* as *dakṣiṇā* during Vedic sacrifices	Sircar, 1964: no. 82
Nasik X	Uṣavadāta	Gods and *brāhmaṇas*	32,000 coconut trees; 16 villages; *a kṣetram* bought from a *brāhmaṇa*	Senart, 1905–6 : 78–80
,,	,,	Sangha	8,000 coconut trees; 3,000 *kāhāpanas* as *akṣayanīvi* grant	Ibid. : 82–5
,,	,,	Gods and *brāhmaṇas*	70,000 *kāhāpanas*	Ibid.
Karle	,,	Sangha	Karajaka *gāma*	Burgess and Indraji, 1976 : 33
,,	,,	Gods and *brāhmaṇas*	16 villages	Ibid.
Nasik III	Gautamīputra Sātakarṇi	Tekirasi monks	200 *nivatanas* in Kakhaḍī *gāma* with immunities	Sircar, 1964 : no. 83
,,	,,	,,	In exchange for the above, a field in *nagara-sime-rājakam-khetam*	Ibid. : no. 84
,,	Vāsiṣṭhīputra Puḷumāvi	Bhadāvanīya Bhikkhusangha	*Gāma* Pisājipadaka with immunities	Ibid. : no. 86
,,	,,	,,	In exchange for *gāma* Sudisaṇa, grant of *gāma* Samalipada with immunities	Ibid. : no. 87
Karle	King (name damaged)	Mahāsānghikas at Valūraka	Karajaka *gāma* in Māmālāhāra with immunities	Senart, 1902–3 : 64–5

Appendix IV (Continued)

Location	Donor	Donee	Details	Reference
Karle	Maharathi Somadeva	Valūraka Sangha	*Gāma* with immunities	Sircar, 1964 : no. 85
Nasik VIII	Dhamanandin	To the cave gifted by Mugūdāsa	*Kheta* in western Kaṇhahini	Senart, 1905–6 : 77
Nasik X	Viṣṇudattā, the Śakani	Sangha	*Akṣayanīvi* grant	Ibid. : 88
Nasik XII	*nekama* Rāmaṇaka	”	*Akhayanivi-kāhāpaṇa-sata* and cave	Ibid. : 90
Junnar (Shivneri)	Patibadhaka Giribhuti	—	*Leṇa*, cistern and *akhayanivi* grant	Burgess & Indraji, 1976 : 43
Mahad	Vadasiri	—	*Leṇa*; *caitya*; endowment of certain fields	Burgess, 1964 : 88
Junnar (Manmodi)	Palapa	Aparājita sect	Investment of income from a field with the *gāma* of Aparājitas	Burgess & Indraji; 1976 : 44
”	Āḍuthūma, the Śaka	—	20 *nivatanas* in Vaḍālika *gāma*; 9 *nivatanas* in Kaṭaputaka *gāma*	Ibid. : 45
”	—	Sidhagaṇa of the Aparājitas	26 *nivatanas* in Mahāveja *gāma*	Ibid. : 46
”	—	—	2 *nivatanas* of mango trees	Ibid. : 47
”	—	—	12 *nivatanas* for *karañja* trees in Valahaka *gāma*	Ibid. : 48
”	—	—	4 *nivatanas*; 8 *nivatanas* for *jambu* trees; 12 *nivatanas* in Kadaka *gāma*	Ibid. : 48
”	Budhamita & Budharakhita Lankudiyas of Bharukaccha	—	*Bigabha* house	Ibid. : 49

Appendix IV (Continued)

Location	Donor	Donee	Details	Reference
Kanheri III	—	Sangha	In Paithanpatha, a *caitya*, *vihāra* and *akhayanivi* grant	Burgess, 1883 : 76
Kanheri LXXXI	*Upāsaka* Aparenu	Sangha	*Adhapanakheta* in Magalathana and 200 *kāhāpanas*	Ibid. : 79
Kanheri XII	*Negama* of Kalyan	Sangha	*Akhayanivi* grant of a house	Ibid. : 80–1
Kanheri XIX	*Pavajita*	Sangha	Cave and permanent endowment	Ibid.
Kanheri XXIX	*Negama* of Kalyan	—	Cave; cistern; *akhayanivi* grant of a *kheta*	Ibid. : 81–2
Kanheri XLIII	*Pavaitikā* therī with sister	Sangha	200 *kāhāpanas*	Ibid. : 83
Kanheri XLVIII	Kanha	Sangha	Hundreds of *kāhāpanas*	Ibid. : 83
Kanheri XLVIII	The pupil of . . .	Sangha	"	Ibid. : 84
Kanheri LXXVI	Pavaitikā Sāpā	Sangha	Perpetual endowment	Ibid. : 85–6
Kanheri LXX	—	Bhadrāyanīyas	Perpetual endowment of 1600 *kāhāpanas*	Ibid. : 85
Kanheri LXXV	Lavanika	Ambalikavihāra	300 *kāhāpanas*	Gokhale, 1982 : 77–80

APPENDIX V

DETAILS OF SĀTAVĀHANA COIN HOARDS FOUND IN THE DECCAN

Site	No. of coins	Kings represented	Weight	Remarks	Reference
Wategaon	682 lead; 2 copper	369 of Śiva Śrī Puḷumāvi; 191 of Skanda Sātakarṇī	2.4–8.8 gm	Round; elephant × Ujjain symbol	Mirashi, 1972 : 205–12
Tarhala	1500 potin	608 of Sātakarṇi; 178 of Puḷumāvi; 32 of Śiva Śrī Puḷumāvi; 23 of Skanda Sātakarṇi; 248 of Yajña Sātakarṇi; 4 of Vijaya Sātakarṇi; 56 of Kumbha Sātakarṇi; 7 of Karṇa Sātakarṇi; 4 of Śaka Sātakarṇi; 365 illegible; 75 fragments	1.69–3.3 gm	Round; elephant × Ujjain symbol; 75 to 80% copper, 20% tin and traces of iron	Ibid., 1940 : 83
Chanda	183 potin	51 of Sātakarṇi; 24 of Puḷumāvi; 42 of Yajña Sātakarṇi	2.65 gm average	Elephant × Ujjain symbol	Ibid., 1940a : 503
Hyderabad (provenance unknown)	200 copper	80 of Sātakarṇi; 79 of Puḷumāvi; 29 of Śiva Śrī Puḷumāvi; 6 of Skanda Sātakarṇi; 6 damaged	2–3.5 gm	Round; elephant × Ujjain symbol	Shastri & Sethi, 1975 : 25–30

Appendix V (Continued)

Site	No. of coins	Kings represented	Weight	Remarks	Reference
Brahmapuri (Kolhapur)	381 copper	144 of Sātakarṇi; 4 of Skanda Sātakarṇi; 3 of Śiva Śrī Puḷumāvi; 2 of Śrī Sāta; 1 of Śaka Sātakarṇi; 57 of Puḷumāvi; 38 of Yajña Sātakarṇi; 3 of Rudra Sātakarṇi; 5 illegible	1.75–3.8 gm	Elephant × Ujjain symbol	Gupta, 1955–7 : 62
Brahmapuri (Kolhapur)	1865 lead; 100 copper	No details	—	—	Ibid.
Penumuli	15 lead; part of the coins in the pot	Śrī Puḷumāvi; Chada Sāta	1.1–2.8 gm	Elephant, etc. × Ujjain symbol	*AR-ASI, 1924–25* : 158–61
Maṇḍuru	304 lead	No details	—	—	Ibid.
Nagarjunakonda	2 hoards of copper coins	Puḷumāvi; Sātakarṇi; Yajña Śrī	1.04–3.11 gm	Round; elephant × Ujjain symbol	Sarma, 1980 : 42
Adapur	Pot	Vāsiṣṭhīputra Sātakarṇi	25–32 gm	Horse×6 arched-hill & tree in railing	*AR-ASI, 1912–13* : 63–4
Padugupadu	Pot of coins	Yajña Śrī Sātakarṇi	6 gm	Horse × Ujjain symbol	Sarma, 1980 : 43
Banavāsi	Pot of coins	—	—	—	*IAR 1970–71* : 29
Jogalthembi	13,250 silver	9,270 of Gautamīputra Sātakarṇi; the remainder of Nahapāna	2–2.3 gm	Counterstruck; 3 arched-hill × Ujjain symbol	Scott, 1908 : 223–44

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